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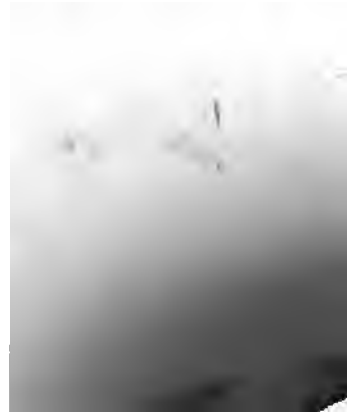
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AN  
INTRODUCTION  
TO  
DERMATOLOGY.





PLATE I.



RINGWORM.



FAVUS.



LUPUS ERYTHEMATOSUS.



ALOPECIA AREATA.

AN  
INTRODUCTION  
TO  
DERMATOLOGY.

BY  
NORMAN WALKER, M.D.,  
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH;  
ASSISTANT PHYSICIAN FOR DISEASES OF THE SKIN TO THE ROYAL EDINBURGH INFIRMARY.

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*WITH 43 FULL PAGE PLATES, AND 47 ILLUSTRATIONS  
IN THE TEXT.*

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SECOND EDITION. REVISED AND ENLARGED.

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NEW YORK:  
WILLIAM WOOD & COMPANY.

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1902.

110



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III  
N 182  
1902

TO  
THE MEMORY OF  
SURGEON-GENERAL M. W. MURPHY, A.M.S.  
*(Formerly of the 80th, and 91st Regts.),*  
SURGEON-MAJOR FRANCIS HENRY SWINTON MURPHY, A.M.S.,  
AND  
SURGEON-CAPTAIN WILLIAM NORMAN MURPHY, A.M.S.,  
MY  
UNCLE AND COUSINS.

54039



## PREFACE TO THE SECOND EDITION.

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THE success of the first edition of this book was I believe mainly due to its simplicity, and the absence of unnecessary details.

In re-writing it I have therefore, while expanding those portions which I have thought necessary, done my best to avoid the temptation to alter its character.

I am indebted to many friends for the originals of photographs, which have enabled me to add greatly to the illustrations, and I have to acknowledge the most useful assistance in reading the proofs of Miss Norah Lenwood, my last year's Medallist.

NORMAN WALKER.

7, MANOR PLACE,  
EDINBURGH, *February, 1902.*



## PREFACE TO THE FIRST EDITION.

---

THIS work is practically a reproduction of the lectures which for several years I have delivered to my students, and I venture to hope that they may be found useful by a larger audience.

It is to be noted that the title of the book is "An Introduction to Dermatology," and that it does not profess to be a complete system. I have described fully all the more common diseases, and less completely those rare ones which the ordinary practitioner is likely to meet with ; while I have omitted, for the sake of space, those rare conditions which are mainly of interest to the specialist.

I have to acknowledge much help received from the writings, etc., of others. In the first place I owe a great deal to Dr. Allan Jamieson. I feel, indeed, that I have hardly done him sufficient justice in the text. Being so closely associated with him I have unconsciously absorbed much of his teaching, and I desire here to express my gratitude for all I have learned from him. It is, however, only right to make clear that the "new-fangled" ideas in the book are my own ; in particular, those on Eczema, Seborrhœa, Lichen, and Lupus erythematosus.

Another to whom, as is evident from my frequent references, I owe much, is my friend, Dr. Unna. No one can write on the skin without frequently quoting

his name, and we have been on such intimate terms for the last few years that I naturally do so more than most. He has been good enough to read and criticise for me the section on Seborrhœa; and his contribution to Eulenberg's "System," on the general Therapeutics of the Skin, which he was so kind as to supply me with while it was passing through the press, has been of much value to me in the preparation of that section.

To the published works of others I am much indebted, in particular to those of Hebra, Tilbury Fox, Erasmus Wilson, Crocker, Morris, and Liveing.

The microscopical drawings, with the exception of Figs. 1, 2, and the animal parasites, are from my own preparations, and they and all the coloured plates are the work of Mr. J. Grieve, to whom I desire to express my thanks for the care and trouble he has taken with them.

Of the photographs, while most are from my own collection, some are from friends, and are acknowledged in the text.

The University of Edinburgh has at last "recognised" a course of clinical lectures on Dermatology, and I trust that this work will do its share in imparting to the students that amount of systematic knowledge which is essential to a thorough understanding of the subject.

*June, 1899.*

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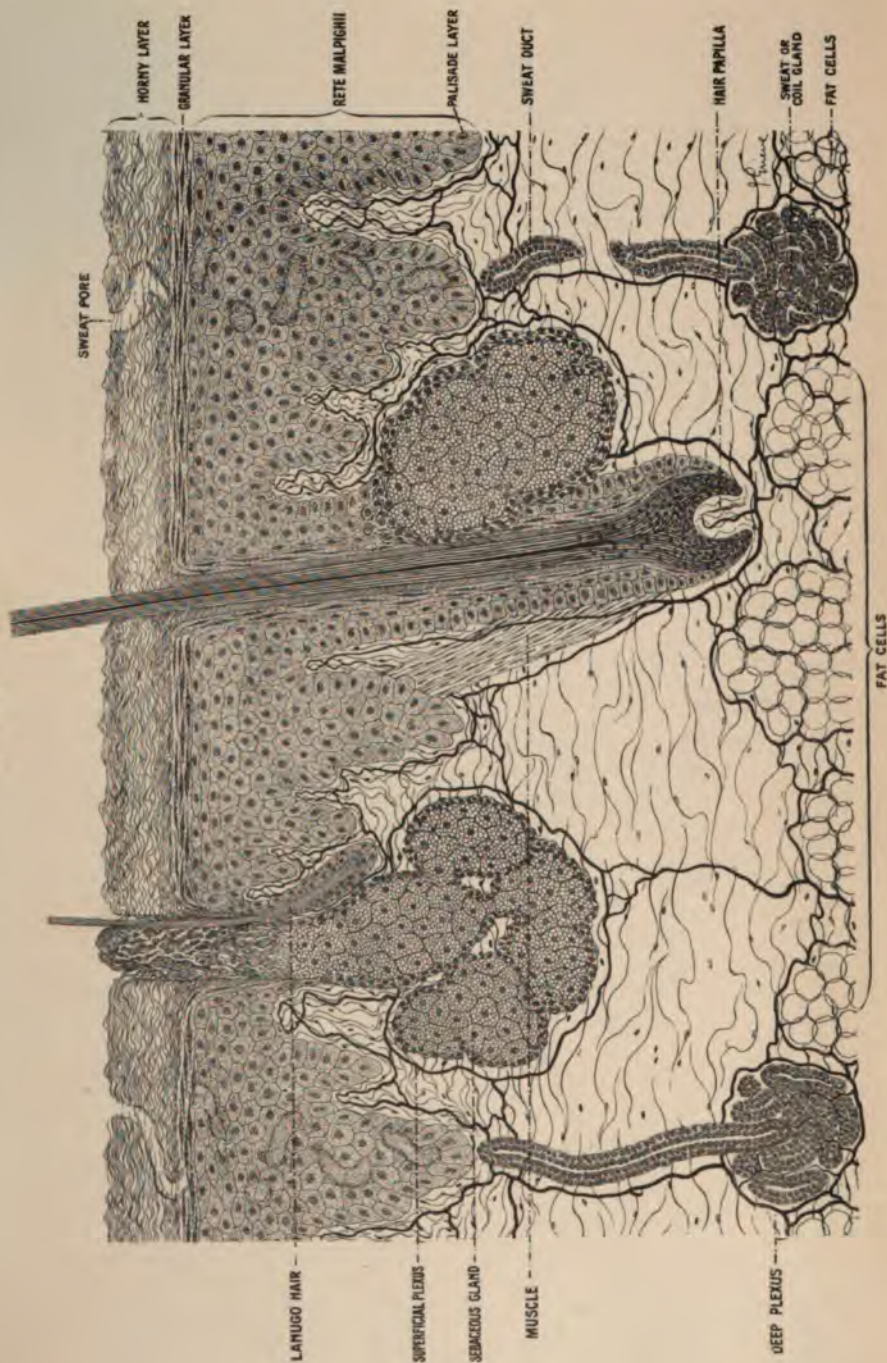
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PLATE II.



# AN INTRODUCTION TO DERMATOLOGY.

---

## SECTION I.

---

### *INTRODUCTORY.*

THE diseases of the skin do not differ in their processes from those of other organs. Like these the skin is composed of blood-vessels, nerves, connective tissue and epithelial cells, and it is therefore liable to just the same affections. Any changes are of course, just as in other organs, modified by the special structure, and modified still further in the case of the skin by the circumstance of the tissue being exposed to view, and the processes being as it were one-sided. Further, from its external position the skin is more exposed to, and exposed to more forms of irritation than are the other organs. But the essential pathological processes do not in any way differ. It is necessary to elaborate this point because there is a tendency among students to regard skin diseases as something by themselves, some mysterious subject which it is necessary to learn *de novo*, in which the knowledge acquired in their other studies is of no, or comparatively little use.

As in the other organs, there are found in the skin congenital malformations, hyperæmia, anæmia, inflammation, hypertrophy, and atrophy. New growths are found in large numbers; and parasites, using the term in the coarser sense, also infest it. Most of the diseases, however, come under the class of inflammations,

and may be produced by an immense variety of irritants, to some of which (*e.g.*, heat, cold, light, friction, etc.,) the internal organs are strange. One thing specially is peculiar to the skin, *viz.*, the sensation of itching, due to some irritation of the minute nerve ends, which convey to the centres a perception short of pain.

It is necessary to say a few words on the structure of the skin. It is divided into the epidermis or cellular layer, along with which should be reckoned its derivatives, the hair follicles, hairs and nails, sebaceous and sweat or coil glands; and the corium or true skin, with its vessels and lymphatics. The epidermis is divided into several layers. Reckoning from without inwards, we have the *Stratum Corneum* or horny layer, *Stratum Lucidum* or clear layer, the *Stratum Granulosum* or granular layer, the *Stratum Mucosum* (*Rete Malpighii*) or prickle layer, and the *Stratum Germinativum* or germinal layer, which from the regular arrangement of its cells is sometimes described as the palisade layer.

The GERMINAL LAYER, in which growth occurs, consists of small, regularly arranged cells, with here and there a mitotic figure. Mitotic figures are also found in the second and third layers, so that growth and division extend beyond the limits of the so-called germinal layer. These cells contain varying amounts of pigment according to the colour of the skin.

Following this is the PRICKLE LAYER, and on the structure of this our views have recently been considerably amended. The earliest idea was that these cells, larger than the germinal ones and polygonal in shape, were fitted into each other by a series of teeth, the prickles, which dovetailed into one another. It was then observed that the prickles did not fit into each other, but met end to end, and they were then described as inter-cellular bridges, through the arches of which flowed the lymph which nourished the cells. Most recent observations show that these prickles are not mere processes from the cell membrane for the purpose of keeping the cells apart, but that they are fibres which pass from the nucleus of one cell, often through the nucleus of one or more cells, to

join another nucleus at a distance. The connexion between the cells is therefore much more close and intimate than was previously supposed (Fig. 1).

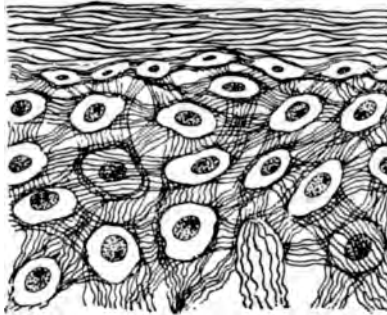


Fig. 1.—Showing the Fine Fibrils of the Epithelial Cells (after Kromayer);  $\times 400$

In the GRANULAR LAYER the cells are in section elliptical in shape (they are really flattened vertically), and, when treated with any nuclear stain, certain granules in the protoplasm of the cell take the stain deeply, and thus give to them a granular appearance. These granules consist of a substance named *keratohyalin*, and probably form the first stage in the transformation of the protoplasm of the cell into the keratin or horny material of which the surface cells are composed. Kromayer regards them as merely precipitated granules of the stain used, and states that a similar appearance is sometimes observed in connective tissue.

The next layer, the STRATUM LUCIDUM, which is best seen in the skin of the palms and soles, appears in unstained sections as a clear streak, without any evident structure. When carefully prepared, however, it also is found to consist of cells, somewhat swollen, and it is probable that the reason it does not usually stain is because the cells in that region are soaked with fat, into which the stain does not penetrate. Dühring and Unna look upon it as a part of the horny layer.

The STRATUM CORNEUM is made up of three layers. The lower layer, next to the stratum lucidum, like it contains a large amount of fat, and is seen deep black in sections treated with osmic acid. The cell elements are closely packed. Following this comes a looser layer



which seems to consist chiefly of cell membranes, with traces of nuclei only here and there. The outer layer is more dense, the cells are closely packed together, and are constantly desquamating on their outer surface. This also is deeply blackened by osmic acid.

Along with the epidermis the appendages must be considered. They are all of them simply variously modified depressions of the epidermis. At an early stage of foetal life solid prolongations of the epidermis descend into the corium, and these are differentiated into the various appendages.

Thus a HAIR FOLLICLE, when it has grown a certain length down into the corium, is met by an up-growth, a little capillary loop, which forms the papilla of the hair. This, so to speak, turns the epidermic attack, and the cells in the centre are so modified as to form a hair. It is not of very great moment to commit to memory all the different layers with the famous names which are attached to them, of the hair follicles. Enough is understood when the mode of their development is borne in mind. While this represents the stronger type of hair, there is another form called the bed hair, where there is no papilla and no medulla or central canal, the modification having taken place earlier, and the hair having a shallow root. Some look on the bed hair merely as a papillary hair in process of being thrown off.

The SEBACEOUS GLANDS, which are almost always attached to the hair follicles, are also mere prolongations



Fig. 2.—Portion of a Sebaceous Gland;  $\times 300$ .

of the epidermis, only the growth in them has been more active, and the cells, instead of forming a hair, undergo

a peculiar fatty metamorphosis which ends in their breaking down into the excretion which we know as sebum. At the border of the gland the cells are of the same type as those in the germinal layer of the skin, but as they grow towards the centre they enlarge, owing to the deposition of fat, often to ten times their original size. The shape of the gland depends upon the blood-vessels of the corium below it. As the epidermis grows downwards it is able to advance steadily against the fibrous tissue, but when in its advance it meets a blood-vessel, the blood-vessel prevails, and the epithelium divides and passes down on each side of it. This is the explanation of the lobulated character of the sebaceous gland.

The COIL GLAND is developed in very much the same way, except that the process is narrower, and descends further into the corium. When it reaches a certain depth its growth downwards ceases, and it increases in the form of the familiar coil. The duct is lined by one or two layers of cells, the coil by from one to three, according to its thickness. While the sebaceous gland opens with a distinct mouth, either on the surface or into a hair follicle, the sweat duct terminates at the germinal layer. From here a channel may be traced between the cells of the epidermis, and the duct reappears in the well-known corkscrew form in the horny layer. It will be noticed that the expression "coil" gland has been made use of. The exclusive use of the term "sweat" gland is apt to ignore a very important function of those glands. It is many years since it was pointed out, but it has been largely forgotten, that the sweat glands, while they undoubtedly do excrete on the surface a watery fluid, are not concerned with that excretion solely. Indeed Unna attributes to the coil glands the principal share in lubricating the skin, and a properly conducted examination will never fail to discover in the lumina or cells of these glands a certain, sometimes a considerable amount of fat.\* The coil is almost invariably placed in immediate relation to a lobule of fat, from which it probably derives substance,

---

\* I was interested to find on looking over my notes of Prof. Rutherford's lectures that he fully describes this function of the glands.

and the fact that the palm of the hand, where, if anywhere, perfect lubrication of the skin is required, contains no other glands but the coil glands, is a strong piece of clinical evidence bearing on the character of their excretion. The amount of fat which is observed in the lowest horny layer can hardly conceivably be derived from the sebaceous glands, which open upon the surface with a distinct walled opening.

The connective tissue of the CORIUM is arranged in three layers. The lowest one, in which are often the roots of the hairs and some sweat glands, is loose, and the fibres are coarse. In the middle layer the fibres are firm, and closely arranged in horizontal bundles. The upper part of the corium is known as the *papillary body*, and immediately adjoins the epidermis. In it the fibres are much finer and their arrangement is looser and more irregular, showing none of the horizontal stratification of the middle layer. The lymph spaces here are wide, or at least have an infinite capacity for widening, and here are found most of the deeper pathological changes in the more common diseases.

The BLOOD-VESSELS of the skin are distributed, roughly speaking, in two layers. At the lower border of the corium there is the deep plexus, sending branches to surround and supply the coil glands and hair papillæ. At the upper border of the corium, just where it passes into the papillary body, we find the superficial plexus, sending off processes into the papillæ, each of which contains a fine capillary loop.

The NERVES of the skin are fascinating subjects for study. Their terminations may be traced into the Pacinian and Meissner's corpuscles, into and between the epidermic cells. They may be found in relation to the hair follicles, and in numbers around the coil glands. While, as has been said, they form an interesting study, their direct bearing on the diseases of the skin is obscure, and definite changes in them have been found only by a few favoured individuals, and not regularly even by them.

The MUSCLES of the skin are found mainly in relation to the hair follicles, where they take their origin. They are of the non-striped variety, and terminate high up in the corium, being attached to the connective tissue

fibres. Muscular fibres are also found in certain special situations, such as the scrotum and the nipple. Not of much importance pathologically, their spasmodic contraction increases very much the sufferings of the patient when the skin in these parts is inflamed.

The structure of the *nails* is of such importance in connexion with their diseases that its consideration will be reserved for that section.

One more matter must be mentioned. The epidermis is not, as would appear from the study of a single section, attached to the corium by a sort of dovetailing. It is rather a continuous layer of epithelium into which numerous papillæ project, and the term *inter-papillary processes*, which conveys the idea of a down-growth of epithelium into the corium, is misleading. If a portion of macerated epidermis be examined on its under surface with a low power, numbers of rounded holes from which the papillæ have separated may be seen.

### CLASSIFICATION.

Classification is the greatest trial of everyone who has to teach dermatology. Malcolm Morris very truly says that "while it is a good servant it is a bad master," and to become a slave to classification more than undoes the many advantages which are derived from it. Ever since dermatology became a science it has been the aim of its leaders to formulate a perfect classification, but we are still far from that desirable end. Some have classified diseases according to what are called the primary lesions, and put in one or another class diseases according as the morbid change first observed is in the form of a papule, pustule, vesicle, bulla, scale, etc.

Willan, the father of English dermatology, used this form of classification, while Erasmus Wilson advised what he called a "clinical" classification, which comprised no fewer than twenty-two varieties. While such a system may prove useful to the expert, it is of no value to the beginner.

The French school classed diseases according to supposed diatheses, some of which had to be created before they could be filled.

Hebra divided diseases on a pathological basis: Hyperæmia, Anæmia, Anomalies of secretion and exudation, Hæmorrhages, Hypertrophy, Atrophy, Neoplasms, Pseudoplasms, Ulcerations, Neuroses, and Parasitic diseases. While there is much in favour of some such method, it undoubtedly leads to some anomalous conclusions.

Some in despair have had recourse to the exceedingly practical plan of using the alphabet as their means of classification, and describing diseases under A, B, and C. Even if there were universal accord as to nomenclature, the plan is of little use to those who are not familiar with the diseases, and it is certainly not a method one would like to see generally adopted. A faulty system is better than none.

To my mind the best, though admittedly not perfect attempt at classification, is that followed by Unna in his "Histopathology of the Skin." It is at all events a more logical one than some of the others, which are too often regardless of the primary principles of classification.

While using it as the ground work of this *Introduction to Dermatology*, I have found it necessary to modify it in two directions. Firstly, since Unna in his "Histopathology" deals only with disease as evident histologically, certain diseases have no place in his work, and secondly, it has been my experience that the diseases are more easily understood by the student when the modifications which I have ventured on are used.

The system will be found in full in the Table of Contents, which the student should read carefully, not as a preliminary, but after he has attained a certain familiarity with the ordinary diseases of the skin. Some explanatory remarks will, however, not be out of place here. Those who compare this with my first edition, will find some points of difference, most of which are due to an increased amount of courage in my convictions.

THE ANOMALIES OF SENSATION are simple and clear. Itching, pain and anæsthesia, without any antecedent local lesions, are all that are included. Local lesions produced by scratching may be present when the patient presents himself for examination; these are subsequent, not antecedent lesions.

THE ANOMALIES OF SECRETION.—The increase, decrease or alteration of character of the sweat secretion clearly comes under this heading. Secondary to these, especially when the secretion is excessive, there are often inflammatory and other changes in the skin, but their subsidiary character is evident. Seborrhœa, which is generally included under this heading, may undoubtedly be accompanied by increased activity in the growth and breaking down of the epidermic cells by which alone the sebaceous secretion is produced, but that is not the cause of the diseases which we recognise clinically as seborrhœa. The material which may be expressed from the sebaceous glands is not even strictly speaking a secretion at all.

THE ANOMALIES OF CIRCULATION.—In this section I follow Unna's classification as far as it goes. The lesions of urticaria are so transient, so evidently due to the temporary escape of serum from a blood-vessel, that it seems more reasonable to place them here than under the inflammations where they are usually placed. No one denies to purpura the right of a place in this section; nor does any one deny that that term includes hæmorrhages due to a great variety of causes, and I am still unrepentant for placing pediculosis corporis here. The disease must go somewhere; we now know so many diseases to be due to parasites that it is no longer reasonably possible to include them all in one chapter as "Diseases due to Parasites," even if it were logical in any scheme of classification to have such a section following, say, "Inflammation"; the terms are not mutually exclusive. It is the lesions produced by the parasite which are of importance in diagnosis, and for that reason, mainly, I retain pediculosis corporis among the hæmorrhages.

INFLAMMATIONS.—In a classification of the diseases of any organ, the various forms of inflammation form the largest group, and the skin forms no exception to the rule. Redness, heat, and itching in place of pain, are present in the majority of the diseases which come under this heading: the extent of the skin is so great that the *functio læsa* is only rarely observed. In many the disease is so mild and superficial that the symptoms are not noted, and only a microscopic



examination discloses signs of inflammation. The main division into traumatic, neurotic, and infective, are merely provisional and convenient. A traumatic and infective inflammation may be combined; if so, it is the infective element that is of importance, for the healthy skin will soon recover from the effects of an external injury.

Closer criticism of the sub-divisions of this section will be found in the pages dealing with them.

NEW GROWTHS are, of course, a very clear and defined section, being practically the class of tumours found in any classification. I have omitted Unna's section of Retrogressive Disturbances of Nutrition, which was included in my first edition. In such a complete description as his there is no doubt room for such a chapter, but the diseases which I found it necessary to describe under that heading have sufficient relation to the granulomata to make them not altogether out of place in that section.

The other sections: malformations, saprophytes, and anomalies of pigmentation, require no explanation.

## DIAGNOSIS.

The diagnosis of any given case may be very easy, or it may be, for the time, absolutely impossible.

Dermatology is not practical chemistry (qualitative analysis), where, by adding various solutions, the observer is enabled by a process of elimination to arrive ultimately at an absolute diagnosis.

There may still be in the possession of some, certain so-called aids to clinical medicine which profess to teach the student how to make his diagnosis. *Is there fever? Then it may be A, B, or C, it cannot be D, E, or F. Is there dulness of the chest? Then it may be A or B, it cannot be C.*

Dermatology can neither be taught nor learned in this manner. Accuracy of diagnosis can only be acquired by a wide knowledge of the various diseases affecting the skin, and by making ample use of the experience gained in each and every department of medicine.

To the student the subject appears a new one, for it

seems to appeal almost exclusively to the eye, while the senses he has mainly been trained to use are touch and hearing.

While the eye is by no means our only aid (the sense of touch in many diseases, notably syphilis, being of very great value), a mere picture on the retina of the "pimple" on the skin does not advance matters very much. The picture on the retina must be conveyed to and analysed by the brain, while the eye must penetrate the surface of the "pimple" and divine the nature of the process present beneath.

It is unfortunately inseparable from the system, at present in vogue, of teaching dermatology in large overcrowded out-patient clinics, to avoid a certain amount of what may be called VISUAL DIAGNOSIS. The trained eye becomes so familiar with the common types of disease, that the reasoning process is performed automatically, and the diagnosis registered without going through with one's students the steps by which it is arrived at. Until dermatology is properly recognised as a "subject," and taught more systematically, the diagnosis of the newly-qualified men will be founded on an insecure basis.

*"No opinion should be definitely pronounced until every portion of the eruption has been seen."* This is one of those statements which need not be invariably literally interpreted. It applies especially and mainly to those cases where there is something peculiar about the eruption, and it does not mean that, when a patient has typical patches of psoriasis on the legs and arms, those on the buttocks must also be inspected. But when there is anything about the eruption which strikes the observer as unusual, something which he is not familiar with, or something which causes him to suspect some definite disease, then he must insist on seeing region after region until his suspicions are either confirmed or dissipated. This is particularly the case in suspected tertiary syphilis, where the discovery of old scars, long forgotten by the patient, is of the greatest value in the diagnosis. In searching for evidence of this sort the word of the patient must not be depended on, and a statement such as "there are no spots on my back," really carries no weight at all.



It has been said jocularly, that in Vienna any statement made by a patient is considered as probably untrue, and the joke contains a modicum of truth which gives it point. Information obtained from the patient, if it is to be of any value, must be most carefully elicited.

There are two ways along which error lies. In one the patient intentionally or unintentionally misleads the observer by his replies; in the other the observer unintentionally misleads the patient by a series of leading questions. The poor old woman up from the country thinks it more polite to give the affirmative answer which the "Professor" so evidently expects. The mistake is so common that it may be well to illustrate it. Take a case of suspected Scabies. The proper questions to ask are: *Does the eruption itch at all? What time of day is the itching worst?* For contrast, the improper questions: *The eruption is very itchy, isn't it? Does it get worse when you take off your clothes at night?* The former question will really elicit information, the latter, in the class of patient referred to, might just as well be left unasked.

The first and the most important inquiry where there is any difficulty in the diagnosis, is: Has any treatment been applied, and if so, what is the treatment and how long has it been carried out? Both well-treated and ill-treated cases may be altered out of all semblance of themselves. Another important question is whether the present is the first attack. The questions which deal with matters of fact are the ones from which real information can be got; the description, even by the most intelligent, of the manner of commencement of their diseases, is in very many instances misleading or valueless.

All questions should be simply put; thus, on inquiry into a suspected case of urticaria, the lesions should be referred to as "like nettle stings," and not as "white wheals."

When an eruption has a peculiar irregular look, especially if it occurs in a young woman, the possibility of its being self-produced should always be considered. The methods used by hysterical patients to produce eruptions are very varied. Nitric and carbolic acid

are among the commonest, but any irritant, or even simple continued friction, may be employed. The lesions in such a case are irregularly distributed, and usually are *within the reach of the right hand*. It is indeed remarkable that it rarely seems to occur to such patients to use the left hand also, and this is usually the clue which leads to their detection. When this suspicion is aroused the part should be dressed by the physician himself, and, so to speak, "sealed." Unna's gelatin should be painted over the bandage, and unobtrusively marked so that any tampering with the dressing can be at once detected.

The diagnosis of syphilitic eruptions is probably the greatest difficulty of the inexperienced. Syphilis can imitate almost any disease of the skin, and it is difficult to say whether the commoner mistake is to diagnose it when absent, or to ignore it when present. And yet it is an almost infallible rule that if the eruption is syphilitic, some other evidence of the disease may be detected on careful examination. If the disease is recent there is ulceration of the throat and enlargement of the glands; should it be one of the later eruptions there will be found somewhere a tell-tale scar.

A very important matter is the diagnosis of the infectious diseases from what may be called the "skin diseases proper." Thus, erysipelas and acute eczema of the face, modified small-pox and acne, measles and the antipyrine rash, are all liable to be confused. In such cases the thermometer is an almost infallible guide. Of course coincidences may occur and the temperature be up accidentally, but it may be taken as a practical rule that when the thermometer registers high the more serious disease is present.

## TREATMENT.

It is hardly necessary any longer to discuss the question as to whether diseases of the skin should be treated at all. Hebra's scathing satire on those who, unable to cure the disease, took refuge behind the theory that harm might result from interference, has had its effect, and has driven this absurd doctrine from the profession. Even the laity seems wiser, and it is quite uncommon

nowadays to hear the once familiar fears about an eruption being "driven in," though one still hears now and again gratification expressed at its "coming" or being "driven out."

Urticaria and purpura may attack both the skin and the mucous membranes, but we know of no means by which they can be driven from the one to the other. Tuberculosis is indeed the only disease which furnishes any grounds at all for the old objection, and these are chiefly theoretical. It cannot be denied that the scraping or scarification of lupus vulgaris (tuberculosis of the skin) does open a possible route for general infection. When one considers the thousands of cases where such operations are performed annually without any ill effects, the very slender nature of this risk may be appreciated. According to Unna a moist eczema of the head of a child may so mask the early symptoms of tuberculous meningitis, that the cure of the eczema appears to be followed by the development of the more serious disease. From this however we learn, not that we should leave the eczema untreated, but that we should be on the outlook for such a complication. It is as absurd to act on the assumption that the skin only is diseased in any given case, as it is to assume that every disease of the skin depends on some systemic disturbance. During the incubation period of the infectious fevers, any dermatitis present usually tends to disappear. This is notably the case in children with eczema who are sickening with measles; and rapid improvement in a case which has previously proved obstinate to treatment, especially if associated with a slight rise of temperature, should suggest some such possibility.

Treatment in diseases of the skin resolves itself into internal and external, and the former may be again divided according as the action on the disease is direct or indirect.

#### I.—INTERNAL TREATMENT.

The treatment of the diseases of other organs, on which skin affections sometimes depend, will not be considered here. The treatment of dyspepsia, constipation, or anæmia is exactly the same whether a patient has a disease of the skin or not.

There are however a number of internal remedies which are administered with the object of *directly* influencing the disease of the skin. Of these the most important is :—

ARSENIC.—Like mercury, arsenic has had its ups and downs. The former, at first used with much success, was later so abused that it was largely abandoned in disgust, and even yet some eminent authorities are in the habit of treating syphilis without its aid. Used with discrimination it is now recognised as an invaluable remedy, and one can only envy the therapeutic resources of those who can afford to dispense with its assistance.

Arsenic has not reached the same haven of security. Used at first no doubt in moderation, its administration became more and more wholesale, until in the middle of last century each and every disease of the skin was supposed to be amenable to its influence. Valuable in many diseases, it is positively injurious in others, and its reckless abuse brought about a reaction from which it has not yet recovered.

It cannot be too definitely laid down that arsenic is not a universal remedy for skin diseases; it should be used in those diseases where it is known to be of value, and in them only. It may be said generally that arsenic is useful in those bullous diseases which are admittedly neurotic in their origin (pemphigus, hydroa) and in some dry conditions, and injurious in the vesicular catarrhs of the skin (eczema), and in those associated with hyperkeratosis (acne).

Arsenic is almost invariably administered in this country by the mouth. Subcutaneous injection may be more efficacious, but it is not a method which appeals to the British public. Fowler's solution is the usual form in which it is prescribed. If an acid solution is necessary, the liq. arsenici hydrochlor. is substituted, or arsenious acid may be given in pills. The rules for its administration may be stated with comparative brevity: (1,) The case must be a suitable one; (2,) The patient's tongue must indicate that his gastric and intestinal functions are satisfactory; (3,) It must always be given after or during meals (always freely diluted if given in liquid form); (4,) It should be given in gradually

increasing doses until either (*a*,) the disease shows signs of yielding, when the dose need not be further increased; or (*b*,) the well-known symptoms of arsenical poisoning (coated tongue, abdominal pain, or conjunctival irritation) develop, when it should be discontinued for a time.

ANTIMONY is recommended by some authorities in those cases where there is heat and tension of the skin, if the general condition of the patient does not negative its use. Jamieson gives the wine ℥viii-xv, two or three times a day, and Morris gives ℥x-xij, repeated in an hour, and again if necessary two hours later. The interval is increased and the dose diminished until ℥vj, thrice daily, are given so long as the acute symptoms last. Antimony is also found useful in some cases of lichen planus.

MERCURY.—In addition to its action on specific disease, mercury often has an action, almost specific, on lichen planus. While most commonly administered in this country by the mouth, inunction and subcutaneous injections bring the patient more rapidly under the full influence of the remedy, and should be preferred where time is of importance. In localised syphilitic lesions, application of the drug in the form of plaster to the seat of the disease is very desirable. There has recently been introduced a method of administering mercury which promises to be of great value. The inunction method has always been supposed to depend on the penetration of minute particles of metallic mercury into the glands, from which it was slowly absorbed into the blood, and the fact was overlooked that the heat of the patient's body was slowly volatilising the mercury and surrounding him with a vapour which he constantly inhaled. Experiments on this line (Welander, Blaschko, and others), have shown that many of the effects of the inunction cure can be attained by the patient wearing next the person some fabric impregnated with metallic mercury, which the heat of the body gradually volatilises. The patient constantly inhales this vapour, and the effects of the mercury are very soon evident. Welander uses mercurial ointment, in a bag, Blaschko a fabric impregnated with metallic mercury, in the form of a chest



protector, which is described as the "Mercolint Bib." This, worn day and night, remains efficacious for four or five weeks, and I can speak highly of the success of the method, while patients are loud in their praise of its convenience.

**SULPHUR.**—The former great reputation of this drug has grown dim, and internally administered it has only a limited use. Crocker recommends it in hyperidrosis, and it is occasionally useful in erythema multiforme when other methods have failed. The sulphide of calcium, grs.  $\frac{1}{4}$  t.d.s., is sometimes brilliantly successful in the treatment of furuncle and indurated acne, while Duhring recommends the hyposulphite of sodium (gr. v-x t.d.s.) in urticaria and furunculosis.

**ICHTHYOL** possesses powers far beyond the sulphur which it contains. In urticaria it is probably our most dependable remedy, and in any case where the vessel-nerve relations are disordered it may be hopefully given. It should be administered to adults in capsules or palatinoids. Fortunately children do not usually object to its nauseous taste, and to them it may be given mixed with glycerin.

**SALICYLIC ACID** in its various combinations (sodii salicylas, aspirin, salophen, salicin and salol), is a drug of proved value in all the erythemata; indeed for erythema nodosum it is virtually a specific. Many cases of erythema multiforme respond to it readily, but on others it has no effect. Following Crocker's advice, I have given it a fairly extensive trial in psoriasis, and while it has sometimes seemed of some value, I have not found it nearly so useful as he has. Aspirin, one of the most recent synthetic salicin preparations, has been especially useful in my hands. It has a more agreeable taste than some of the others.

**QUININE** is often efficacious in those cases of erythema which do not respond to salicylates; it is useful in urticaria, especially if any malarial taint is present, and like Duhring I have found it to do good in lichen planus, though we administer it from different motives. Payne recommends it in lupus erythematosus, and it is at least a useful tonic in many cases of widespread hyperæmic dermatitis, and as an alternative to arsenic in pemphigus.

IODIDE OF POTASSIUM has undoubtedly some influence on inflamed psoriasis when administered in sufficient quantity; it is useful in the recently described form of chronic dermatitis due to infection with blastomyces; but its chief field lies in its thorough action on the products of syphilis.

ERGOT is used by some as a remedy in purpura, and in many hyperæmic conditions such as rosacea, in the hope of contracting the dilated vessels.

IRON.—So many skin diseases occur in anæmic patients that iron has a large space in internal treatment. The anæmic skin is especially liable to attack by micro-organisms, and its powers of resistance to organisms are so weakened that external remedies, however suitable, are, when unaided, often long in bringing about a cure. It must, however, be emphasized that it is in this way, and in this way alone, that iron acts, and suitable external treatment must always go along with it. I usually administer it in the form of bi-palatinoids of ferrous carbonate.

ALKALIES are undoubtedly useful in many conditions, but they act indirectly, and the indications for their use are found in the disorders of the other organs of the body.

PURGATIVES, preferably saline waters, should be given when required, but the hope of purging away skin diseases is fallacious; the apparent improvement which occurs while the patient is reduced by the purging, disappears when he regains his condition. This, of course, does not apply to the use of purgatives in cases of urticaria due to the ingestion of some poison, where a brisk cathartic is often the only treatment required. If such drugs are required, say in a case of eczema with constipation, there is probably nothing more satisfactory than the old-fashioned Epsom salts made up in some way to suit the more fastidious taste of the present generation.

ANIMAL EXTRACTS.—That the skin is influenced by more than one of the animal extracts is undoubted, and for a time thyroid and other extracts were very largely used and equally largely abused. The most remarkable results were achieved in the thyroid treatment of psoriasis. Having observed the remarkable desquamation following on its use in cases of myxoedema, it occurred to

Dr. Byrom Bramwell that a trial should be made in psoriasis. Accordingly a patient of mine was admitted to his ward and treated. The result was brilliantly successful, and it is undoubtedly the case that if put to bed and given enough thyroid substance, nearly every case of psoriasis can, temporarily, be cured. If the patient be kept carefully under observation under such circumstances, there is little to object to in the treatment, but most cases of psoriasis are unwilling to submit to such restraint, and the treatment of ambulant cases with large doses of thyroid is not one to be commended. I have seen cases reduced to a serious condition of debility, and in one case a fatal termination ensued. Still after all, this is merely the history of any new and useful remedy. Reckless abuse is followed by a reaction, and the pendulum swings perhaps too far on the recoil. There are cases of psoriasis which do well on small doses of thyroid; and especially combined with arsenic, it is often a useful addition to other treatments. In lupus small doses of thyroid up to 15 grains a day, help in diminishing the hyperæmia and the catarrhal complications which so often aggravate that disease, and in other forms of hyperæmic dermatitis it sometimes does good. In ichthyosis it is really useful, and I would sum up my views on thyroid by expressing the opinion that it is the advocacy of the drug as *the* means of treatment, to the detriment or derogation of all other remedies, which has to some extent prevented it from attaining the place which its merits deserve.

Supra-renal extract has been extensively used in Addison's disease, and in vitiligo or leucoderma, but without much benefit. In the latter disease I have several times given it a very thorough trial, but I cannot say that I have seen any improvement result from its use; though one patient, a lady in India, recently wrote me that since taking it her disease had apparently ceased to spread. It has recently been suggested as a remedy, both internal and external, for rosacea.

## II.—EXTERNAL TREATMENT.

Since the causes of the vast majority of skin diseases are seated in the skin itself, the external application of



some suitable drug is clearly the rational method of treatment, while in many where the cause lies deeper, external applications are of great value in moderating the symptoms of the disease.

It would occupy too much space to describe in detail the therapeutic action of the many and varied drugs which are of proven efficacy, while to do the same for every drug which is occasionally used would require a volume. Reference will therefore only be made to groups of drugs according to their action, while the vehicles in which they are applied will be fully considered.

ANTI-PRURITICS.—Tar, carbolic acid, cocaine, nicotine, tumenol, hydrocyanic acid, etc.

ASTRINGENTS.—The salts of lead (particularly the acetate), silver (especially the organic combinations, nargol, protargol, etc.), zinc (sulphate), and bismuth (sub-nitrate), alum and tannic acid.

CAUSTICS.—Caustic potash, pyrogallol, nitrate of silver, arsenious acid, the chlorides, chromic acid, nitric acid, and the acid nitrate of mercury.

PARASITICIDES. — *Animal*. Paraffin oil, sulphur, stavesacre, balsam of Peru, styrax, etc. *Vegetable*. All the salts of mercury, sulphur, iodoform, resorcin, salicylic acid, and numerous others, including many of the modern synthetic compounds.

REDUCING AGENTS.—This term is applied to a whole series of drugs which have in common the power, in a greater or less degree, of taking oxygen from the tissues and of promoting the growth of healthy epithelium. Unna has given them the name of "kerato-plastic" remedies. This action is most marked when they are applied diluted. When concentrated, many of them have a destructive action on the epithelium. The most important members of the group are sulphur, salicylic acid, chrysarobin, ichthyol, resorcin, pyrogallol and tar.

The action respectively of the oxidised and un-oxidised form of pyrogallol and chrysarobin makes it a little doubtful whether all their good effects are due to reduction, for the former is active in both conditions, while oxidised chrysarobin is comparatively inert.

## METHODS OF APPLYING REMEDIES TO THE SKIN.

It is necessary to give full particulars of these, for in many cases where progress is unsatisfactory, the error lies, not in the drug which is applied, but in the method of its application.

Before commencing the treatment of any skin disease, it is first of all necessary to remove from the surface any products of disease (crusts, scales, etc.) which lie on the surface, and prevent any application from reaching the actual seat of the disease. There are various methods of doing this. The part may be covered with strips of lint soaked in olive oil. On the scalp, if its use is not contra-indicated, common paraffin oil, in virtue of its searching and penetrating powers, is of great value in removing accumulated scales and excretions. Hebra's ointment (lead plaster and vaseline āā), spread thickly on cloth, is very efficacious in removing crusts, and at the same time its action on exposed areas of inflammation is favourable.

Perhaps one of the best methods is the prolonged application of the BORACIC STARCH POULTICE, which is made as follows: One teaspoonful of boric acid is mixed with four tablespoonfuls of cold water starch, and enough cold water is added to give the mixture the consistency of cream; a pint of boiling water is then gradually added, the mixture being constantly stirred until the starch bursts and a translucent jelly results. When this is cold, as much as is required is spread on cloth in a layer about half an inch thick. This is covered with muslin and applied to the part. The poultice should be renewed about four times a day, and much trouble will be saved by making enough of the starch jelly to last for two or three days. In addition to its power of removing scales and crusts, this poultice is a valuable soothing application to inflamed surfaces.

BATHS.—These are used with various ends in view. Where the skin is greatly inflamed a starch bath is very soothing. From a half to two pounds of starch is crushed and made into a cream with cold water, and *warm* water from the tap should be caused to run into and overflow the vessel in which the cream has been made. The water must not be boiling, otherwise the

starch will "burst." Bran (lbs. 2-5), and gelatin (lbs. 1-3), may also be used to form a soothing bath.

*Alkaline Baths.*—The drying effect of the alkali on the skin should not be lost sight of in the temporary sense of well-being that a patient with an inflamed skin feels when in these baths. They are more suited for cases where there is some thickening of the skin, as in pruriginous conditions, and are made by the addition to an ordinary warm bath (25-30 gallons), of sodii carb. ( $\mathfrak{z}$ ij-x); potass. carb. ( $\mathfrak{z}$ ij-v); borax ( $\mathfrak{z}$ ij-v) or soft soap (lb. ss-j).

*Sulphur Baths* are useful in scabies, and also in other conditions in which sulphur is indicated. They are usually made by adding two to four ounces of potass. sulphid. to the bath. Startin recommended sulph. præcip. ( $\mathfrak{z}$ ij); sodii hyposulph. ( $\mathfrak{z}$ j); ac. sulphuric. dil. ( $\mathfrak{z}$ ss). Sig.: Mix in a pint of water and add to the bath. The deleterious effects of sulphur on most metals should not be lost sight of, this being a great objection to its use in private practice. A recently-introduced preparation sold as *Sulphaqua*, which develops free sulphur when mixed with water, is largely free from this disadvantage.

*Tar Baths.*—While tar may be added to the bath, the usual practice is to *tar the patient* before he enters it. The bath should be prolonged, care being of course taken to maintain the temperature of the water.

*Sea Bathing.*—If there is much hyperæmia, and especially if moisture is present, sea bathing is likely to irritate and aggravate the disease. On the other hand its general tonic effect is sometimes shown beneficially on the skin. It should not be persevered in if any irritation follows it.

**POWDERS.**—Simple powder when applied freely to the skin protects it from external irritation, soaks up the evaporating or excreting fluid by capillary attraction, and therefore produces a sensation of coolness; the vessels are contracted and therefore a certain degree of *anæmia* results. Its beneficial effects on erythematous and œdematous skin are thus fully accounted for. Any further effects are due to the chemical character of the powder and not to its action as such. The more commonly used powders are the oxide and carbonate of

zinc, starch, talc, boric acid, carbonate of magnesia, kaolin, terra silicea. Violet powder is composed of starch to which a certain amount of powdered orris root is added.

Carbonate of magnesia has the greatest capacity for water, taking up five and a half times its own weight (Gründler). As a simple dusting powder it is excellent, but its great bulk is against its use in pastes. Kieselguhr\* takes up three and a half, and oxide of zinc one and one-fifth times its weight of water, and being less bulky they are more used in pastes.

Powders are simply dredged on to the affected area. If a more prolonged action is desired they may be quilted into muslin bags which are fixed with a bandage, or they may be applied, *e.g.*, on the legs, by wearing two pairs of stockings or drawers, the inner pair being of some open texture while the space between them and the outer pair is liberally dredged with powder.

LOTIONS.—These are mainly used either as applications to subdue itching and irritation, or from motives of economy when the wide spread of the eruption in any given case makes treatment by ointments very expensive.

Sometimes they are very simple, *e.g.*, ac. carbolic (3j) ; glycerin (3ij) ; water (3viiij). More frequently they contain varying proportions of powders with glycerin or mucilage to aid in suspension. In many respects glycerin is not the most desirable addition, it irritates some skins, and in others its hygroscopic qualities actually produce exudation. Mucilage of tragacanth may be used when the reaction of the fluid is acid ; if alkaline it is precipitated. When the fluid part of a lotion evaporates the powder is left as a protectant to the inflamed skin. Tar, sulphur, acetate of lead, oxide of zinc, calamine, etc., are amongst the commonest ingredients of lotions.

In using a lotion it should be well shaken, and the amount to be used poured into a saucer. It is then dabbed on with a pledget of wool. The thicker lotions are applied with a brush. Any lotion left over should be thrown away and not poured back into the bottle.

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\* Terra silicea.

**VARNISHES.**—These are fluid or semi-solid preparations which, when spread on the skin, evaporate and leave a thin adherent covering. The simplest of all is Pick's *Linimentum exsiccans*, which is best composed of tragacanth 5, glycerin 5, and water 100 parts. The water and glycerin must be gradually added while the tragacanth is rubbed in a mortar. They form a translucent jelly, which leaves on the skin to which it is applied a thin, almost invisible film, which by its contraction produces a pleasant cooling sensation on inflamed areas. To it various drugs may be added, provided they have not an alkaline reaction. Mixed with 1 per cent. of oil of cade, it is often most useful in the erythematous eczemas of the face.

*Gelanthum* is one of Unna's preparations, and is composed of tragacanth, gelatin and glycerin. As the preparation is somewhat complicated, I quote from the "British Journal of Dermatology," Feb., 1897, a formula by Mr. Skinner, M.P.S. :—

R. Tragacanth	5ijss
Gelatin	3ij
Glycerin	5vj
Thymol	gr. 4
Aq. Destill. q.s.	

Place the tragacanth and the gelatin, each in a covered jar with 10 ounces of water, in a steam bath for twenty-four hours. Then press through muslin, mix, add the glycerin, place in the bath again for an hour, and make up to 12 ounces with water in which the thymol has been dissolved. The object of these complicated proceedings is to deprive the gelatin of the greater part of its power of gelatinising.

Liddell, of Harrogate, tells me that he gets a smoother preparation by using 110 grs. of tragacanth, and adding a little gum Arabic.

Any powders which are added must be rubbed up with water to a thick cream. Fats may be added up to 10 per cent., glycerin up to 20 per cent. Almost any drug may be added provided its action be not alkaline.

Both these preparations have great merits, not only in themselves, but also from the standpoint of economy, often a most necessary consideration in dermatology, while their cleanliness makes them popular with patients.

Many substances—tar, ichthyol, guaiacol, benzoin, etc., may be applied dissolved in spirit, which, when it evaporates, leaves on the skin a thin coating of the medicament. Tar acetone is a favourite remedy with Allan Jamieson. The formula is picis carbonis 10 parts, benzol 20 parts, and acetone 77 parts.

*Collodion*.—Both the plain and the flexile may be applied simply for their contracting power, or they may be used as vehicles for various drugs (*e.g.*, salicylic acid). Unna has drawn attention to the fact that, unlike the gutta-percha varnishes, collodion permits the natural evaporation to go on unchecked, and thus does not “heat” the part.

In place of ether, acetone may be used as the solvent of the gun cotton. Some prefer this formula.

*Traumaticin*.—This is a solution of gutta-percha in chloroform (3j-3j), introduced by Auspitz. It is perhaps most used as a cleanly vehicle for the application of chrysarobin in psoriasis. Though less uncleanly than ointment, it does not altogether prevent chrysarobin staining of the clothes.

*Celloidin* is very useful in the minor surgery of dermatology, but has not apparently been made use of as a vehicle for drugs. A solution in equal parts of ether and alcohol is more manageable than a pure ethereal solution.

GLYCO-GELATINS.—Glycerin jellies or limes.—The word “lime” (bird-lime) has almost dropped from the English language, and the term “glyco-gelatin,” suggested by Duhring, seems the best substitute for the German *Leim*.

The use of gelatin was first introduced by Pick, but Unna’s modification is now almost exclusively used. It is a most valuable application, and as its success depends on its careful preparation, I give it in detail:—

℞ Zinci Oxidi	30·0	℞ Zinci Oxidi	
Gelatini	30·0	Gelatini	
Glycerini	50·0	Glycerini	
Aquæ	90·0	Aquæ	āā pts. aq.
(UNNA.)			

The second formula is that made for me by Messrs. Baidon and Son. The gelatin is laid in a dish and the water poured over it. It is frequently turned until



every part has taken up water and become perfectly supple. It is then melted in a water bath and the glycerin, previously mixed with the zinc oxide and any other desired medicament, is poured in, the contents being stirred the while. When required for use it is melted in an improvised glue pot, and when sufficiently cool is painted on the affected surface. It rapidly sets, and when nearly dry may be dabbed with a pledget of absorbent wool, some of the fibres of which adhere and render the film more durable. Ichthyol and sulphur are the usual drugs added to it. Most others, *e.g.*, tar, are best painted on the part and then covered with the gelatin. There is probably no preparation to equal this for use in the dermatitis which accompanies varicose veins of the leg. The gelatin permits natural evaporation to go on freely, and consequently does not "heat" the part; it exercises a most useful compression, allays itching, and keeps off injurious external influences. In winter the proportion of gelatin may be diminished, and in very warm weather increased. Glyco-gelatin is also an excellent means of fixing a dressing on any part of the surface where it is difficult to apply a bandage.

Mibelli adds lanolin in the proportion of 48 parts to 120 parts of zinc gelatin, and claims that the mixture is an improvement on the older formula, especially because any active ingredient seems to have its action intensified.

OINTMENTS.—Far too much local treatment consists in the mere perfunctory application of zinc ointment. Recent investigations have disclosed an unsuspected width of distribution of fat in the healthy skin which is absent in certain diseases, proving once more that tradition usually rests on some basis of fact, and that in applying ointment to many diseased skins, we only supply to them what they lack. There are, however, many diseases where the application of grease is of doubtful value, and some where it is distinctly injurious.

Ointments vary in their effect according to their composition, irrespective of any drug which may be mixed with them, and may be divided into three groups: (1,) Cold creams or refrigerating ointments; (2,) Pastes—stiff ointments; (3,) Ointments proper.

The simple application of fat to the skin is by no

means without effect. The fat is greedily taken up by the horny cells, causing them to swell up, while it dams back the natural evaporation, and causes fluid to accumulate even as far back as the papillary body, and thus on sensitive skins often produces a most undesirable hyperæmia and œdema.

Unna gives four indications for the use of fats : (1,) where the cutaneous fat is deficient (ichthyosis, dry eczema, etc.); (2,) where the epidermis is deficient in protective power (trade dermatitis, *e.g.*, in washerwomen and masons, weeping eczema); (3,) as vehicles for various medicaments; (4,) as directly healing agents.

The fats used are very numerous, and only the more commonly used will be considered.

Lard and tallow are the oldest established. They are always mixed with a certain proportion of benzoin to prevent rancidity. Vaseline should always be prescribed as such. Proprietary preparation though it be, it is much superior to any of its substitutes. The same does not hold of lanolin; *adeps lanæ hydros.* is at least its equal. Anhydrous lanolin irritates many skins by abstracting water, and should only be prescribed when this is desired. Lanolin alone forms rather a tough basis, and when used as an ointment should be mixed with an equal quantity of vaseline, or almond or olive oil (3ij-3j). Cocoa butter, which melts readily at the temperature of the skin, is a favourite basis for pomades, and wax and cetaceum are used mainly in the preparation of cold creams.

The mere enumeration of the most commonly used fats does not, however, take us far; more depends on the method of application and the combinations in which they are applied.

(1,) *Cold Creams.* Evaporating or refrigerant ointments.—These act, according to Unna, in virtue of the water which they contain. To put the matter briefly, they take up fluid on one side and give it off freely on the other. From this constant evaporation arises the cooling sensation with which they are associated. In order to obtain the full benefit of this they must be smeared on in a thick layer, not rubbed in like ointments. The *ung. aquæ rosæ* of the British Pharmacopœia is a cold cream; a common formula is *ceræ*,



cetacei āā ʒss, aq. rosæ, ol. amygdalæ āā ʒss. Sack has drawn attention to the great capacity of adeps lanæ for water, and excellent creams may be made as follows : Adipis lanæ anhydric. ʒj, vaselini vel adipis benz. ʒij, et aq. calcis, aq. rosæ vel liq. plumbi subacet. ʒiij.

(2,) *Pastes*.—These are combinations of fat and powder, the latter being in far greater amount than in any ointment, sometimes as much as 50 per cent. Hence they combine the effects of an ointment and a powder. They have not the same penetrating effect as ointments, but in virtue of the fat in them they do penetrate, and take with them any incorporated drugs, while the powder they contain enables them to soak up the excretions instead of damming them back as mere ointments tend to do. The most familiar of all is Lassar's paste : Zinci oxid., pulv. amyl., lanolin., vaselin., āā ʒij. Other commonly-used powders are kaolin, magnes. carb., and chalk ; while Unna strongly recommends, on account of its great absorbent powers, the powder known in Germany as "kieselguhr," a diatomaceous sand which is prescribed as "terra silicea." This possesses such eminent capillary attractive power that 10 per cent. added to an ointment suffices to make a paste.

Pastes are rubbed on the skin so as to form a thin adherent layer—a dry, protective covering for the skin. They may be covered with powder, waxed paper, or with cotton wool and a bandage. Unna's zinc paste :—

R	Terræ Siliceæ	grs. xx
	Zinci Oxidi	ʒij
	Adipis Benz. ad	ʒj

His zinc sulphur paste is most valuable :—

R	Terræ Siliceæ	ʒss
	Sulph. Præcip.	ʒij
	Zinci Oxidi	ʒjss
	Adipis Benz.	ʒj

I agree with Leistikow that the presence of hair on the part is no contra-indication to the use of pastes. If they accumulate they can easily be removed by oil.

Any drug may be incorporated with the pastes, the amount of powder being diminished if the added constituent is bulky and dry.

(3,) *Ointments*.—In using pure ointments, *i.e.*, small proportions of active drugs mixed with one or other of

the fats, their method of action should be borne in mind, and they should only be prescribed when such action is desired.

Pure grease applied to the surface causes the horny cells to swell up, and consequently arrests evaporation. Combined with any drug, it takes that drug along with it when penetrating, as it does, into the horny cells; hence ointments are *the* vehicles to select when we wish our drugs to penetrate, to exert what the Germans call "Tiefen wirkung." Having conveyed the drug in, their next duty is to give it up readily, and in this all bases are not alike. Vaseline is said to owe much of its virtue to the readiness with which it parts with incorporated drugs. The penetrating power of fat is increased by the addition of water (cold cream), or of soap. The various ointments owe their specific action to the drugs they contain.

Ointments may be rubbed in, spread on strips of cloth and bound on, or if great activity of action be desired, the part may be covered over after their application with some impervious material. If active ointments are applied continuously their effects must be very carefully watched. Particularly is this the case with regard to salicylic acid, which, when applied spread on cloth, is very energetic in its action.

*Salve muslins* are ointments composed of benzoated mutton tallow and a little wax, variously medicated. They are spread either on one or both sides of muslin, and possess advantages on account of their cleanliness and the simplicity of their application, all that is required being to cut a piece of the required size and apply it to the part. Although dearer, they are undoubtedly more efficacious than ointments of similar composition spread upon cloth, and are therefore often cheaper in the end.

The *plaster muslins* are more penetrating in their action, owing to the impermeable basis of gutta-percha on which the medicament is spread. Like the salve muslins they can be applied to any part. They adhere well, and they far surpass in activity the same drugs applied in any other fashion. They may be fixed on to any part of the body by coatings of zinc glyco-gelatin.

A very handy and most economical method of

applying drugs to the skin is the *salve stick* or *pencil*. This is composed of some firm basis in which the drug is incorporated, and is applied by simply rubbing the affected part, the heat of the skin melting some of the stick. Unna's basis is lanolin 2 parts, and wax 1 part. If this is found too stiff, another useful formula is cocoa butter 2, wax 1, lanolin  $\frac{1}{2}$ . This is a very handy method of applying any drug to circumscribed patches of eczema, *e.g.*, on the hands, while the chrysarobin stick is a useful means of applying that drug in ringworm and alopecia areata.

**SOAPS.**—When soap is mixed with water, it breaks up and sets free a certain amount of alkali which combines with any greasy matter on the skin, saponifies and removes it. The more alkaline the soap, the more energetic is this action, the alkali attacking the horny cells, softening them, and if it is concentrated, dissolving them.

The most active soap is *sapo mollis*, made from potash and olive oil. This contains a considerable amount of free alkali, and is chiefly useful in removing thickenings of the epidermis. It is most commonly prescribed in the form of Hebra's *Spiritus saponatus kalinus*, consisting of 2 parts of soap to 1 part of spirit of wine. Perfumes may be added as desired, or the formula may be modified:—

R Saponis Mollis	ʒiv
Spt. Coloniensis	
Spt. Vini Rect.	āā ʒj

The indications for its use will be referred to later. When hard soaps are required, soda or a mixture of soda and potash is used. Unna's basis soap is made from 2 parts of soda lye and 1 part of potash lye. Over-fatty soaps are made by the addition to the neutral soaps of an excess of fat, *e.g.*, olive oil 4 per cent. This fat is unsaponified, hence the term over-fatty. For ordinary use neutral soaps are best. Alkaline ones are too thorough in their action, and over-fatty ones require warm water if the cleansing is to be at all satisfactory.

A great deal, perhaps too much, is made of the alkali in soap to the neglect of the other constituents. Probably a good many of the soaps which cause irritation

owe that irritation as much to unsuitable rancid fats used in their preparation as to the alkali which they necessarily contain. Advertisements that a soap contains no free alkali, or even that it contains no alkali at all, are no guarantee that it may not irritate.

Theoretically, soaps should be more useful as vehicles for drugs than they are. Their power of softening the epidermic cells undoubtedly opens those cells more to treatment, and medicated soaps are largely used. They do not, however, in practice prove so satisfactory as they do in theory. They do not seem to carry the drug with them so well as ointments do, and the dosage is uncertain both in amount and concentration. Exceedingly useful in one case, they may prove just as disappointing in their effects in another; and they have their chief sphere in cases where the action of soap as soap is desired, and not as a vehicle for drugs. At the same time they are so easily used, so little trouble is entailed on the patient, that they are often found advantageous.

Of the medicated soaps the best known are Eichhoff's, which are made alkaline, neutral, or over-fatty, either in cake or powder. His formulæ are made up in this country by Midgley, of Manchester, and other soap manufacturers. The powdered soaps are especially useful for application to the back, the powder being dusted on to a wet towel.

The softening power of soap may be taken advantage of by adding it to ointments. Soft soap has long been used as an addition to ointments in the treatment of scabies, and Unna has further developed the idea by the introduction of what he calls *salve soaps*. These are composed by the addition to a soft soap made from lard and potash, of 5 per cent. of lard, and are strongly recommended by him as a medium for mercurial inunction.

Soaps may be applied in various ways: (1,) simple washing; (2,) rubbing in the lather and allowing it to dry on; (3,) rubbing in thoroughly until dry; (4,) covering the lather with some impervious material.

OILS.—Oils may be used to soften the thicker ointment bases. Olive oil is used to soften and remove crusts, especially on the head. Linseed oil, along with

an equal part of lime water, forms the well-known Carron oil. Paraffin oil is used to destroy pediculi and cod-liver oil as an external application in lichen scrofulosorum. Almond oil is used in cold creams, and serves to diminish the toughness of lanolin, while castor oil is a component of hair washes, being the only oil which is soluble in alcohol.

*Valsol* is the name given to a specially prepared fluid vaseline. It forms one of the best media for applying salicylic acid to the scalp, while iodine valsol, when rubbed into the skin, produces some of the effects of the internal administration of iodides.

The most potent of the recent additions to the dermatologist's armamentarium are those mysterious electrical vibrations known as the Röntgen or X-rays.

For some time after their introduction their effects on the skin were regarded as entirely for evil, and case after case was recorded where, after the prolonged exposures requisite in the early days, severe inflammation, sometimes with considerable sloughing, developed, the resulting ulcer often taking many months to heal. It was also noted that the hair on parts exposed to the Rays fell off, and it was this property of the Rays which first suggested itself to several dermatologists (myself among the number) as something of which advantage might be taken. They were therefore used in cases of hairy mole, of hirsuties, and in my case in favus, in all with success.

Schiff was the first to use them in lupus, in which disease the good effects are most remarkable, and they have been used with benefit in several other diseases, lupus erythematosus, sycosis, ringworm, etc., and last and most wonderful of all, in rodent ulcer and other forms of ulcerative cancer. Their effects on each disease will be referred to under the individual disease; here only some general remarks are requisite. It is not yet possible to lay down definite rules as to their application; the views and procedure even of those with the largest amount of experience differ widely.

Thus, some are of opinion that soft tubes are best, as in skin diseases no great penetration is required; Mr. Harnack, of the London Hospital, whose experience is

very extensive, believes that hard tubes are preferable, and this view is apparently to prevail.

Freund and Schiff, who claim to have been the pioneers in the therapeutic uses of the Rays, advise that the current should not be of more than one and a half ampères and twelve volts strength. Harnack, however, uses twenty to twenty-four volts at four to five ampères. There seems to be general agreement that the coil should not be greater than a ten-inch. Both Freund and Harnack use mechanical interrupters; indeed, with the higher current used by Harnack the ordinary platinum interrupter is almost useless, as it blazes away so rapidly. For moderate practical use, a six- or eight-inch coil with the ordinary platinum interrupter seems to be quite efficacious.

Adjacent parts to which it is not intended to apply the Rays should be protected by masks of lead foil. As skins vary in their reaction to the Rays, an interval of some days should be allowed to elapse after the first two or three exposures in order to determine the reaction of the individual. It is probably well to give the first exposures at a distance of as much as twelve inches, but in most cases the full benefit is got when the patient is at a distance of about six inches from the tube. The coil should always be worked by an accumulator, or better, from two.

The other method of photo-therapy, the method of Finsen, will be described in detail under Lupus, for although it has been used in other conditions, it is only in that disease where the time, trouble and expense involved are justified by the intractability of the disease.

## SECTION II.

### *ANOMALIES OF SENSATION.*

#### PRURITUS.

(*Prurire—to itch.*)

ITCHING is common to many skin diseases. The term Pruritus should be limited to those cases in which there are no visible signs of local disease, and it must not be confounded with Prurigo, a distinct disease. Pruritus is not a disease, but a *symptom* common to many diseases.

When a patient presents himself complaining of itching, the first matter to be determined is whether any parasites are present. In making this investigation the appearance and social position of the patient count for nothing. There is nothing in a title, even an episcopal one, which guards one from the attacks of such a vulgar insect as the *pediculus vestimentorum*.

Many cases of itching will be found to be due to the presence of the *pediculus capitis*. The irritation in the scalp seems to arouse a general tendency to itching, and scratching produces tiny lesions of the skin, almost invisible yet excessively irritable. Scabies, too, often exists unsuspected; for, in the better classes, the hands being frequently washed are very rarely much affected, while the daily bath prevents the typical appearances of the disease from being developed on the body.

The absence of parasitic causes having been determined, we turn to the investigation of the internal organs. The first subject for examination is the urine. Diabetes is one of the most fruitful sources of pruritus. Not only do we have those cases of local irritation, specially frequent in females, where the irritation of the sugar produces dermatitis and itching, but diabetes often provokes a tendency to itching all over

the body, most marked, of course, in those typical cases where the skin is dry and harsh. Jaundice, from whatever cause it may arise, is frequently accompanied by itching, but other hepatic troubles, such as gall-stones, sometimes reflexly arouse it. Occasionally, too, itching is a troublesome, and sometimes the first symptom of a commencing cirrhosis; the liver and its functions should always be carefully examined in unexplained cases of pruritus. If a likely cause is not found here—indeed, in any case—every organ should be investigated, and any trifling derangement corrected.

PRURITUS HIEMALIS (wintry) is a variety of the disease apparently dependent on external cold. It is most marked in the winter months, often disappears on the stoppage of the cold bath, and is best combated with remedies such as acetic acid, camphor, etc., which stimulate the circulation of the skin. Warm water and friction are useful aids.

The terms pruritus ani and vulvæ are often too readily made use of. While symptomatic itching may be local and limited to these regions, it will generally be found, on thorough examination, that the irritation is caused by *some evident disease* (hæmorrhoids, eczema, oxyuris vermicularis, fissures, vaginal catarrh), the cure of which is soon followed by the disappearance of the itching.

There is another form of pruritus which is not so generally recognised, but cases have occurred in my own experience, and Crocker refers to it in his text-book. These are the cases of *mental pruritus*, where the patient suffers from the delusion that his skin is swarming with insects. This form should not be too readily diagnosed. It is no doubt comforting, when one is unable to discover the cause of any disease, to conclude that it exists only in the patient's brain; but it should only be after the most careful search that this conclusion is arrived at.

REMEDIES.—During the time all these investigations are going on, the patient is naturally anxious to have some relief from his symptoms, and the number of remedies which have a repute for relieving itching is very great. Heat is often efficacious. Its use is said



to have been discovered by the great Napoleon, who used very hot baths to relieve the itching of eczema. Another remedy is menthol, which is most easily applied in the form of soap. If the patient is lathered all over before going to bed, and sleeps in a flannel nightdress, the result is often a quiet night. Carbolic acid ℥j, glycerin ℥ss, water to ℥viij, form a lotion which often gives considerable relief. Tar is another useful remedy; liq. carbonis deterg., ℥j-℥ij or more in a pint of water, sponged on, is often soothing. A solution of tar in spirit, a drachm or more to the ounce, may be applied. As the spirit evaporates, a thin coating of varnish is left on the skin which has a constricting and protecting action. The narcotic alkaloids are often useful; they should be dissolved in alcohol or ether, or a mixture of both. Unna recommends a solution of *cocaine* in ether, and Taenzer uses a *nicotine* soap with good results. Other remedial agents are *balsam of Peru*, the *compound tincture of benzoin*, *guaiacol* and *tumenol*.

It is also possible to moderate the excessive itching by the internal administration of various drugs. A hypnotic should only be advised when the symptoms are very severe, and with a full sense of the responsibility which is involved. Morphia often aggravates itching, and should almost never be prescribed. The bromides, chloral and cannabis indica, either separately or combined as in bromidia, are preferable where some drug is essential. Antipyrine is occasionally useful. Brocq gives carbolic acid, gr. j, in pill thrice daily; and salicylate of soda, gelsemium, nux vomica, ichthyol, digitalis and ergot have all been tried, sometimes with benefit.

Cases which resist the majority of the recommended remedies are so numerous that it is necessary to give an extended list, but it must never be lost sight of that all are merely directed against the symptoms, and that the real treatment of the disease consists in finding out its cause and removing it.

### ANÆSTHESIA.

Anæsthesia of the skin is always a symptom of some other malady. In leprosy the anæsthesia of the patches

distinguishes them at once from any other disease of the skin which they may chance to resemble, though many other forms of neuritis may be associated with anæsthesia of the skin.

### DERMATALGIA.

The pain associated with zoster is neuralgic, and, consequently deeper seated than dermatalgia proper. Pain limited to the skin may be a symptom of some systemic disorder. The most typical cases occur on the hairy parts of the body, when every movement of the hair sometimes causes excruciating pain. This is probably associated with a hyperæmia of the neck of the follicles, and, according to Unna, is best treated by the internal administration of ichthyol. Anæmia, malaria, rheumatism and gout have all been noted in connexion with dermatalgia, and should be taken into consideration in the investigation of any given case. .

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### SECTION III.

#### *ANOMALIES OF SECRETION.*

THE two secreting glands of the skin are the coil and the sebaceous glands. Seborrhœa which, literally translated, indicates an excessive activity of the sebaceous glands, is really a mild inflammatory process, and will be considered under that heading. Saboraud's views on seborrhœa will be found under Acne. The only pure anomalies of secretion which are important are those of the sweat glands. These may either be too active, or inactive, or their secretion may be modified. The most important of these is excessive secretion.

#### HYPERIDROSIS.

(ὑπερ-ιδρώς—*the sweat.*)

Excessive sweating may be either local or general. General sweating is less important dermatologically, as it is usually dependent on some systemic disease. Of the localised form there are certain varieties. One of these is distinctly neuritic in origin, the skin over the region of distribution of a particular nerve, usually on the face, perspiring freely. Then there may be excessive activity of the larger glands in the scalp, and in those regions where the parts are covered by the clothes and heated, the axillæ and groins. The palms and soles also are very commonly affected. Especially in these two latter situations, the irritation produced by the decomposing sweat may set up a moist dermatitis, probably due to the presence of organisms, the growth of which possibly further stimulates the activity of the glands. Hyperidrosis is favoured by general weakness, anæmia, alcoholism and hysteria being the commonest predisposing causes.

The condition known as *bromidrosis* (βρωμος—a stink) is simply a complication of this last, the odour-producing organisms growing in the exuded sweat.

The TREATMENT of the condition depends upon the stage at which the disease is found. If the decomposition has given rise to dermatitis, that must be subdued by mild treatment before the disease itself can be attacked. Ordinary soothing ointments and emollient baths should be used. Hebra's ointment, emplastr. plumbi, vaselin., āā pts. æq., applied spread on strips of cloth, is of great value. For the *hyperidrosis* itself, the first indication is to correct any defect of the general health, such as anæmia. Alcohol, if used too freely, should be interdicted. Of drugs which have an influence on the secretion there are belladonna, agaricin, ergot, extract of hydrast. canadensis, and sulphur (ʒi thrice daily), which is strongly recommended by Crocker. Unna points out that an increase of tone in the smooth muscles lies at the bottom of the process, and that this is best combated by periodic stimulation. Friction, the application of mustard, tartaric acid, camphor, iodine, or electricity, etc., are all useful.

For hyperidrosis of the axillary and femoral regions, absolute cleanliness and astringent applications are usually prescribed. A decoction of *oak bark*, solutions of *tannin*, lotions of *salicylic acid*, and drying powders, are recommended by different observers. Leistikow strongly recommends *formalin*, which should in any case, he says, be used in the form of soap for a considerable time after recovery.

R.	Formalini	ʒss-ʒj
	Adip. Lanæ	ʒij
	Vaselin	ʒss

He also advises the use of zinc sulphur paste (page 28), to prevent recurrence. In the not uncommon cases where sweating in the axillary regions interferes with social pleasures, it is worth knowing that the application of very hot water on a sponge will usually arrest the excessive secretion for a few hours.

In cases where the disease affects the palms and soles, the latter of which is the condition which most frequently comes under notice, Leistikow lays great stress

on the importance of recognising whether the case is one of cold or hot sweating. If cold, he advises the use of hot baths with the addition of vinegar, spirits of camphor, etc. The parts are then carefully dried and washed with formalin soap, the lather of which is allowed to dry on. The principle of this treatment is to induce a hyperæmia which shall correct the anæmic condition.

R	Terebinth.	
	Ichthyol	āā ʒj
	Camphoræ	ʒss
	Ung. Zinci Oxid. ad	ʒj

In cases of hot sweating the hot baths are omitted and their place taken by washings with decoction of tan, or weak borax baths, to lessen the hyperæmia. *Sulphur*, *resorcin*, *ichthyol* and *salicylic acid* are the most suitable applications in these cases. He points out the risk of dermatitis from the use of strong ointments of formalin.

Another plan of treating hyperidrosis of the feet is to envelop them in strips of salicylic soap plaster, 3-5 per cent. The immediate effect of this is excellent. After a week or ten days the patient seems to be perfectly well, but, unfortunately, there is a great tendency to recurrence. This may, however, be prevented by using dusting powders containing salicylic acid (2 per cent). Other methods of treatment are the application of *Condy's fluid*, *nitrate of silver*, or the German military method of painting with a 5 per cent. solution of *chromic acid*. For very obstinate cases Neebe recommends a most heroic remedy. He pours enough *crude hydrochloric acid* into a large, flat dish to just cover the soles of the feet; the patient stands in this for five to ten minutes, and then washes his feet in warm water and soap. A complete cure is said to require bi-weekly applications for four to eight weeks, and it says much for the heroism of those who undertake it. Another application is the *liquor ferri perchlor.*, followed by some soothing dressing. In mild cases it is usually enough to order the patient to wash the feet at least twice daily, to change the socks every day, and, before putting them on, to fill them with some antiseptic powder, *boric acid*, or 3 per cent. *salicylic acid* in

talc or starch. Loosely-fitting shoes and woollen socks should invariably be worn.

### CHROMIDROSIS.

(*χρῶμα*—*colour*.)

Most cases of chromidrosis are met with in hysterical young women, but we not uncommonly meet with red staining of the clothing in the axillary region, which is due to the growth of organisms. These grow on the hair sheath, and the sweat is stained after excretion. My experience accords with that of other observers, who have met with this most commonly in medical men and students. Probably they are more observant than others. Treatment is not very satisfactory. The parts must be kept scrupulously clean, and sponged twice daily with perchloride spirit (1-1000).

Blue sweat is probably due to the presence of the bacillus pyocyaneus, but it and the other varieties occasionally described are the rarest curiosities, and still more rarely have they any practical importance.

### ANIDROSIS.

Total suppression of the sweat probably rarely, if ever, occurs, and the term is generally applied to those cases where the secretion is diminished, as at certain stages in a number of systemic diseases. The secretion is also very notably diminished in ichthyosis, and in many of the dry keratoid eczemas.

Usually the cure of the condition to which the arrest is due is followed by the restoration of the secretion. Complete cure is so unlikely in ichthyosis that one cannot hope for much improvement, and the skin must be permanently artificially lubricated.

Stimulation of the skin by hot baths and massage is useful. Pilocarpine may be administered, but most useful are those general methods which increase the subcutaneous fat situated in relation to the sweat glands. Cod-liver oil or glycerin in large doses are favourite remedies. According to Unna, arsenic and ichthyol, separately or in combination, are usually more efficacious.

## SECTION IV.

### *ANOMALIES OF CIRCULATION.*

#### URTICARIA.

*(Urtica—a Nettle.)*

THE name of this disease almost renders a detailed description unnecessary. The lesions exactly resemble those produced by the sting of the nettle, and the sensations of burning and itching are precisely similar. The wheals are elevated, firm to the touch, white in the centre, and have a reddish border. There are exceptionally cases of what has been called RED URTICARIA, where the white centre of the wheal does not appear.

The nature of the process may best be explained as follows:—If in a healthy person a streak made on the skin with some blunt instrument, is carefully watched, there will be seen to appear at once a thin red line, which almost immediately turns white and persists in this form for some minutes. The first effect of the irritation is to cause a momentary dilatation of the vessels, and this is followed by contraction. In some persons where the vessel nerve connexion is not perfect, the redness persists for a considerable time, and then gradually fades away. In a certain number of individuals the redness which first appears is carried on a stage further; in addition to dilatation of the vessels, serum is poured out from them. The serum, getting into the interstices of the tissue, compresses the vessels from without, and gradually empties them, and thus we have produced a white wheal, the border where the compression is not effective remaining red. In the case of red urticaria the tissues are presumably looser, and the vessels are not so readily compressed.



In persons whose vessels do not react normally, and who, therefore, have a tendency to it, urticaria is produced by much slighter irritants than in those in whom they are healthy. The nettle sting is an instance of the production of the disease by external irritation, but it may be produced in a variety of ways. We may put in three classes the irritants which cause an attack of urticaria: first, *external*; second, *internal*; third, *reflex*.

*External Irritants.*—There are numerous substances from the *animal* and *vegetable* kingdoms which will produce a wheal, more or less severe, in the majority of persons. There are always exceptions. There are a few people on whom the sting of a nettle does not produce any effect, and there are a good many more who are able to withstand the attacks of the domestic flea with impunity.

But there is another class of external irritants which forms, very frequently, the determining cause of an attack of urticaria in those predisposed to it. This is the class of *chemical* irritants, such as those substances used in finishing, dyeing, bleaching, or even in the washing of clothes. Many people predisposed to the malady are unable to wear any other material next their skin than silk, and in one case under my care a lady frequently had a severe attack of urticaria when clean sheets were put upon the bed (the sheets were washed in a "steam" laundry).

*Internal Irritants.*—The class of irritants comprised under this heading may be best considered altogether as poisons brought by the blood stream to the skin, and according to Walsh the eruption is the result of an endeavour on the part of the skin to throw off or excrete the poison. (Some writers regard these irritations as reflex, but it is probably more correct to regard them as poisons. No one looks upon the eruption produced by, say, copaiba, as a *reflex* irritation.) Of these we have first a number of drugs. The commonest drug rashes are urticarial or erythematous in type, indeed the same drug will produce in one person urticaria and in another erythema. Then we have certain substances taken as food. Of these the most common are, all varieties of shell fish,



prominent among which are oysters, lobsters, crabs and whelks, pork, cheese, mushrooms, preserved fruits, pickles, sour wine, strawberries, cherries, and other fruits—indeed, there are very few substances which to some individuals do not prove, in the urticarial sense, poisonous.

*Reflex Irritants.*—The most important of these is the presence in the intestine of worms, and this should at once occur to the physician in any case of urticaria in a child. The state of the gastric and intestinal functions must next be inquired into and any disorder rectified.

We have already noted the fact that certain substances taken into the stomach produce urticaria, some poison being absorbed into the blood, and considering the katabolic changes in the stomach and intestine, it is not singular that substances of a poisonous nature produced there should have the same effect. Unfortunately, our knowledge is not as yet sufficiently extensive to enable us always to recognise the particular toxin which is responsible, and we know from the effects of other poisons that individuals vary greatly in their reaction to them; but the result of strict dieting and the administration of certain antiseptic drugs demonstrate the importance of the intestinal factor.

Uterine and ovarian disease is another fruitful source of reflex irritation. Often the cure of an apparently trivial affection in these regions will be followed by the disappearance of the urticaria. It is a common observation that urticaria frequently follows the tapping of a hydatid cyst of the liver, but other hepatic disorders may be responsible for a reflex urticaria. Indeed, certain anomalous outbreaks of urticaria are, in my experience, not infrequently one of the earliest symptoms of some serious liver disease, such as gall-stone, cancer, or even cirrhosis. Gout may sometimes be the cause, at least treatment with that in view is sometimes successful; and cases are recorded where certain odours (aromatic essences, iodoform, or even roses and hyacinths) have caused the eruption.

*Varieties.*—If the histopathology of the affection, namely, an accumulation of serum in the interstices of the skin, be clearly understood, it is easily seen how

varieties may occur. Thus the fluid may not be confined to the corium, but may escape and raise the epidermis in a vesicle or bulla, a condition which has been distinguished by the name of URTICARIA BULLOSA ; or the vessels may give way and hæmorrhage take place, URTICARIA HÆMORRHAGICA.

The most important variety of the disease is that known as LICHEN URTICATUS, or URTICARIA PAPULOSA. One is often consulted regarding a child, who is said to suffer from itching. On examination a number of papules are seen, most of them surmounted by a tiny hæmorrhagic crust, and all or nearly all of them distributed within reach of the child's fingers. The appearances somewhat recall those of scabies, but the favourite seats of that disease, the hands, wrists and feet, are not specially affected. Very often, as soon as the clothes are taken off, the child commences to scratch itself, and so demonstrates the nature of its disease. If it does not do this, the skin may be irritated by drawing the finger nail across it, when the sensitive skin responds with the development of an urticarial wheal. Usually the mother, if observant, has noted the appearance of these lesions, but they are so evanescent that their importance is apt to be obscured by the more lasting crusted papules.

Another variety of the disease is known as GIANT URTICARIA, or acute circumscribed œdema (Quincke's œdema). This is more common in adults, and is sometimes associated with alcoholic excess. According to Schlesinger it is sometimes hereditary, especially in the male line, and he also notes as predisposing factors, hysteria, puberty, the climacteric, syphilis, etc. It sometimes follows on the simpler form of the disease, and sometimes gives rise to grave symptoms by making its appearance on the mucous membranes of the throat and larynx, and threatening suffocation. The process is the same, only the vessels affected are the larger ones of the hypoderm, and, consequently, the swelling is much larger and deeper. There is not in this form the same intense burning and itching which is so frequent in the commoner variety of the disease, but in its rapid appearance and disappearance it follows very much the same course. URTICARIA PIGMENTOSA is,

in my opinion, not a true urticaria, and will be described later.

DIAGNOSIS.—The diagnosis of a wheal is a matter of no difficulty. The wheal is merely a symptom which arises with greater or less facility according as the skin is more or less intolerant of various irritants which paralyse the nerve control of the vessels. Thus the importance of the diagnosis is not so much in the actual recognition of the condition as in the recognition of its cause. When the wheal is found and recognised, the diagnosis is only begun.

PROGNOSIS.—The prognosis, too, depends on the cause of the malady. In the acute cases it is usually good, but sometimes an irritant which produces an acute attack seems to arouse in the skin a latent tendency to the disease, which lasts long after all traces of the irritant must have passed away. Thus, I was once consulted by a patient who, after an oyster supper at Christmas, had a severe attack of acute urticaria. When I saw him, in June, although he had eschewed oysters ever since, the urticaria was still very troublesome. The prognosis really depends on the ability of the physician to find out the cause of the disease and to remove it.

TREATMENT.—In cases of acute urticaria, evidently due to some error of diet, an emetic or a sharp purge should be ordered. If parasites, either external or internal, are present, their removal is often followed by the disappearance of the urticaria. If neither of these obvious causes are present, attention should next be directed to the condition of the internal organs, and any disturbance of these, however apparently trivial, should be corrected. The food must be next attended to. There are wonderfully few articles of diet which may not produce the disease in a person predisposed to it. The articles which are well known to produce it frequently have already been referred to, but if a case continues obstinate, the various common articles of food and drink should be intermitted in succession until eventually the guilty one is found.

External irritation must be guarded against. Allusion has already been made to chemicals used in washing the under-clothes, but the under-clothes themselves

should, in those subject to the disease, be very soft and unirritating. It may often be necessary to wear linen under the flannel garments, or to have recourse to those made of silk.

A cold bath sometimes seems to be responsible for the keeping up of the disease, and its modification or abolition may be desirable. Further, irritant substances connected with the patient's work may have a bad effect; and lastly, the possibility that the patient may be taking some drug should be borne in mind. In such cases the irritant must of course be avoided.

Of the drugs which have an influence on the disease, ichthyol has, in my experience, proved the most reliable. To adults it may be given in capsules (5 minims three times a day). Children take it quite readily, mixed with an equal part of glycerin. Salicylate of soda, salol, and quinine are all worth a trial. Chloride of calcium, strongly recommended by Wright of Netley, has, I regret to say, not proved of much value in my hands. Unna gives ichthyol during the day and an atropine pill at bedtime. Antipyrine and phenacetin are occasionally administered with success.

The disease known as Epidermolysis Bullosa is I believe related to Urticaria. It is a hereditary disease, often affecting, as these diseases do, only one sex in a family. The lesions, which are most common upon the hands and feet, are produced by some form of irritation, usually friction, but the escape of serum from the vessels is so great that the epidermis is raised in a bulla, into which hæmorrhage often occurs. As a rule the nails are affected, being atrophied and deformed, and hæmorrhages from the mucous membranes (probably indicating lesions there) are not uncommon.

The disease is rare, and treatment not very satisfactory, but it is sometimes responsive to treatment for urticaria.

#### HÆMORRHAGES.

#### PURPURA.

(*Purpureus*—purple.)

Purpura is not, strictly speaking, a disease. Hæmorrhage may occur in a variety of conditions. It is often



the extension of other processes, such as *urticaria* (*hæmorrhagica* or *purpurica*); *erythema purpuricum* and *hæmorrhagic pemphigus* are both possibilities, and would in a way come under *Purpura*, if that name were to be applied to all hæmorrhages of the skin. But even when limiting its use to those cases in which hæmorrhage is the sole lesion, we are still far from having a characteristic and definite disease before us. As Crocker expresses it, it is a symptom rather than a disease. The purpuric lesion is one which may be produced by a variety of causes.

PURPURA SIMPLEX may be taken as the type of the disease. Hæmorrhages, apparently spontaneous, suddenly appear on different parts of the body. Their size varies. In ordinary cases they are usually rather larger than a pinhead. Their colour, at first bright red, does not disappear on pressure, and they are not elevated above the skin unless the hæmorrhage is considerable. Each spot lasts until the little hæmorrhage is absorbed, the colour gradually fading; but fresh crops constantly appear, prolonging the duration of the disease sometimes for months. The eruption is most common in adults on the lower extremities, especially the flexor aspects of the thighs and calves. In children, almost any part of the body may be affected, and the spots often appear first on the neck.

PURPURA HÆMORRHAGICA is simply an exaggeration of the same process. The hæmorrhages are much larger, and vary greatly in shape. They are not confined to the skin, they appear also on the mucous membranes, and epistaxis, hæmoptysis, hæmatemesis or hæmaturia may occur.

PURPURA RHEUMATICA, or PELIOSIS, is a form of erythema (*q.v.*).

LAND SCURVY is a form of *Purpura* very definitely associated with inefficient food, being found among those whose circumstances are such that fresh food is difficult or impossible to procure. The hæmorrhages are considerable in size, and are especially common upon the legs, while the gums are invariably spongy and bleed on very slight provocation. Under suitable fresh diet the condition of the blood rapidly improves, and hæmorrhages no longer occur.

In ordinary Purpura there is often little apparent disturbance of the general health, but in the hæmorrhagic form the patient is very evidently ill. There is great debility, and the hæmorrhage from the mucous membranes may be so serious as to lead to a fatal result.

Stephen Mackenzie classifies Purpura as follows : (1,) *Vascular Purpura*, including all cases where there is some known or supposed primary blood disorder ; the specific blood diseases (Leucocythæmia) ; conditions in which some constituent is present in excess (bile, urinary constituents, etc.) ; (2,) *Toxic Purpura*, where the hæmorrhages are due to some poison from without, such as phosphorus, mercury, mineral acids, and salicylic acid ; (3,) *Mechanical Purpura*, where there is heart disease, varicose veins, etc., and probably senile purpura ; (4,) *Nervous Purpura*, in which he includes the forms which occur in tabes, neuralgia, and (in my view incorrectly) purpura urticans. There must also be added to these classes, cases such as those described by Russell and others, where organisms have been found in the hæmorrhages.

It used to be taught that blood escaped from the vessels by diapedesis. This theory has been exploded by the careful work of Sack ; and Unna, in his "Histopathology," says that if the examination be careful, one will never fail to detect a rupture in the vessel wall. Our object, then, is to determine what it is that weakens the vessel wall and leads to the rupture, for healthy vessels do not rupture. Various theories have been put forward, and several definite observations made. Thus it has been found secondary to thrombosis, produced either by blood-clot, masses of leucocytes, sarcoma cells, or colonies of germs. The idea that changes in the vessel walls, such as waxy disease, may induce Purpura is hardly warranted by our experience of that very widespread disease. Probably the element on which we should lay most weight is the *condition of the blood* in the vessels and in the *vasa vasorum*. There must take place some weakening in the fibrous tissue of the vessel wall before it can give way.

DIAGNOSIS.—The diagnosis of Purpura is easy enough. The fact that the lesions are flat, not elevated above

the rest of the skin, except where the hæmorrhage is very considerable, separates it from nearly all the other diseases. In true Purpura, hæmorrhage is the only lesion; any swelling, any surrounding hyperæmia points to some other disease.

PROGNOSIS.—The prognosis is usually good, but the time required for recovery varies very widely. While some cases rapidly recover, others require months of treatment.

TREATMENT.—The late Dr. Angus Macdonald, when lecturing on pelvic hæmatocele, used to say that he had three prescriptions for that "disease," one after all not so distantly related to Purpura. Of these, the first was *rest*, the second was REST, and the third was REST. The advice is equally applicable to Purpura. Rest is by far the most potent remedy, and in severe cases it is absolutely essential. The diet should be light but nourishing, and as soon as the cause of the disease can be discovered, suitable measures must of course be taken for its removal.

When we come to the question of drugs, we find an enormous diversity of opinion. Ergot has a great many supporters. Crocker says that *turpentine* is by far the best remedy; my own experience, necessarily much smaller than his, is that iron deserves all he says of turpentine, while Unna strongly recommends the tinct. of arnica, ℥v thrice daily, though he only claims for it a power of promoting rapid absorption of the existing spots, and not of preventing fresh ones. Other remedies recommended are *quinine*, *nitrate of silver*, *acids*, *acetate of lead*, etc. Among so many, it is difficult to make a selection. From the very diversity of the mode of action of these drugs, it is evident that they cannot be useful in the same class of cases; and of ergot, it seems to me that if we assume a weakened condition of the vessel walls, it is more likely to produce hæmorrhage than to check it, for with weakened walls and a rise in blood-pressure, no contraction short of obliteration would seem to be of any value. In the severe cases of *Purpura hæmorrhagica* all food must be cold, ice should be given freely, and absolute rest must be insisted upon. Graves recommended tr. digitalis (℥xx), and tr. opii (℥v), thrice daily.

In *P. hæmorrhagica* the diet has frequently been too restricted, sometimes from choice rather than necessity, and a change to the simple diet of an English farm house—plenty of fresh meat, milk and vegetables—is usually followed by rapid improvement.

Another variety of *Purpura*, by no means uncommon, is found on the legs of elderly people. At the first glance the case looks like a chronic eczema. Closer inspection, however, shows that in addition to a certain amount of dermatitis which is often present, there are numerous brownish lesions which do not disappear on pressure, and which, when closely examined, are seen to be really small superficial hæmorrhages. It is rare to find among them fresh spots of a red colour, and it is only on careful examination that the hæmorrhagic nature of the case is recognised. There is little disturbance of health, and a slight itching due to the dermatitis is all the patient complains of. The course of the disease is slow, and little amenable to the routine treatment for purpura. Acting on a suggestion in Dr. Leistikow's small handbook, I have treated one or two cases which have recently come under my notice with very considerable success, by an ointment containing the *extract of arnica* (3-5 per cent.). Otherwise, the patient's general condition must be looked after just as in the forms of hæmorrhage already described.

### PEDICULOSIS CORPORIS.

It may seem strange to meet with the description of this disease under the heading of hæmorrhages, but after all the difference from purpura is only that in the lesion produced by the *Pediculus corporis*, which is clearly a hæmorrhage, we have also a certain amount of irritation, and we are in the fortunate position of being able to put our finger on the cause. The hæmorrhagic spot in *Pediculosis* differs from that in *Purpura* in two respects. It has in its centre a dark point which represents the puncture of the insect's proboscis, and it is surrounded by a pink halo of inflammation which is absent in that disease. In addition to the hæmorrhagic lesion others are present, though these,



too, are usually in the form of hæmorrhagic crusts. The irritation to which the presence of the pediculus gives rise leads to scratching, and the patient's back is usually marked by his nails. These marks are always to be found within reach of the fingers. Thus on the back they reach from the neck a certain length down between the shoulders. They are frequent about the lower angle of the scapula, where the hand of the opposite side can reach, while the centre of the back is usually, except in acrobats, free. The presence of these "scratch" lines is almost enough to enable one to diagnose the disease. In no other disease does the patient scratch so savagely. In the lowest classes the presence of the pediculus is an additional piece of confirmatory evidence. It is found by carefully everting the neck of the shirt, for the insects are usually present in the region between the shoulders. Failure to discover



Fig. 8.—*Pediculus corporis*,  $\times 50$ .

them is, however, no proof of their absence: it is very common for the patient to pay the hospital the compliment of putting on a clean shirt, and the search is very often in vain. The disease is most common in the elderly; and as in other parasitic diseases, the social position of the patient must never lead the observer astray.

**TREATMENT.**—The successful treatment of the disease depends of course on the destruction of the cause. It was formerly the custom to devote most attention to the treatment of the clothes, but Dr. Jamieson has pointed out that the ova of the insect are frequently found on the lanugo hairs of the body, and this explains the recurrence of the disease in cases where the clothes have been thoroughly disinfected. The treatment, therefore, must be twofold; the clothes must be thoroughly disinfected by heat, moist or dry, and all the under-garments changed, and the whole body

should be rubbed with a parasiticide ointment, such as sulphur or stavesacre.

Dr. Jamieson has also noted that the wearing round the neck of a bag containing a small piece of sulphur has a beneficial effect in these cases.

From Dr. Jamieson's observations it is clear that we should call the insect the *Pediculus corporis*, and not *vestimentorum*.

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## SECTION V.

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### INFLAMMATIONS.

THIS heading comprises the great majority of skin diseases. Our knowledge has not yet sufficiently advanced to enable us to subdivide them in an entirely satisfactory manner. Unna's subdivision is, however, a working one, although it necessitates some assumptions. He divides inflammation into Traumatic, Neurotic, and Infective, names sufficiently descriptive of the main character of the diseases.

#### TRAUMATIC INFLAMMATIONS.

These are those induced by some form of external injury. They may be sub-divided according as the cause is *mechanical*, *physical* or *chemical*.

*Mechanical Causes.*—The most typical of these is friction, which is a common cause of inflammation of the skin; it is usually, however, complicated by the development of organisms on the inflamed surface.

*Physical Causes.*—These include the various forms of light and heat, which are quite different in their effects. Sunburn is caused by the light and not by the heat of the sun. The severest sunburns occur in the Alps, high up among the cold of the glaciers, and it is to the ultra-violet rays of the light that the ill-effects are due; a fact which is readily enough proved by the exclusion of that end of the spectrum by the wearing of suitable colours (*see* Bowles' "The Influence of Solar Rays on the Skin," "Brit. Journ. Derm.," 1893, page 237). The electric arc light produces a condition somewhat like sunburn, while the X-rays sometimes produce severe dermatitis, and sometimes considerable destruction of tissue, peculiar in its character, as is shown by the length of time required for healing.

Prolonged heat produces, as on the legs of stokers

and cooks, deep pigmentation of the skin, often accompanied by some inflammation. The milder forms of these are evidenced only by moderate scaling of the surface, but the effects of course depend upon the extent of the period of exposure, and the idiosyncrasy of the individual.

*Chemical Causes.*—It is impossible, even were the space at one's disposal practically unlimited, to give a complete list of all the chemical substances which induce irritation of the skin. The effects are not all to be regarded as inflammatory; some of them, for instance, are almost purely urticarial, as the sting and bite of various plants and insects. Then paraffin induces a growth of epithelium, sometimes of epitheliomata, which can hardly be ranked with inflammations, and many of the caustics produce a simple death of the tissue without any inflammation at all.

## DERMATITIS VENENATA.

(*venenatus—poisoned.*)

The forms of inflammation which are produced by the external application of chemical irritants are erythematous, vesicular, or pustular. These may be present alone, or grouped in various ways. For instance, croton oil produces an *erythemato-pustular* rash, while the rhus toxicodendron produces an *erythemato-vesicular* one.

Aniline dyes are sometimes the cause of an eruption, papular, vesicular, or pustular, the orange dyes having a special reputation for causing irritation.

Arsenic in the form of a dye is often irritating, and if the cause is not recognised, and arsenic is given to cure the "skin disease," bad is made worse.

Certain drugs when applied to the skin may give rise to some irritation, some of them invariably, others exceptionally. Chrysarobin, cantharides, mercury, and mustard are among the more familiar. Their use sometimes sets up erythema, which may go on to the formation of papules, vesicles, or even to a moist dermatitis.

The juices of certain plants set up a severe form of dermatitis, some in all, some only in certain individuals.

The *Poison Ivy*, the *Poison Oak*, and the *Poison Sumach* (*Rhus toxicodendron*, *R. diversiloba*, *R. venenata*), are very familiar to American dermatologists. Thanks to the kindness of Dr. Frank Nicholson, of Hull,



Fig. 4.—*Rhus toxicodendron* See Brit. Med. Journ., March 4th, 1899.

I am enabled to give an illustration of the appearance of the *R. toxicodendron* (Fig. 4). The *R. vernix*, which grows in Japan, is said to be more irritating than any other plant; it is used in the preparation of Japanese and Chinese lacquer work, and the

effects of fresh lacquer are so familiar that "varnish poisoning" is well known in these countries. In specially susceptible persons, old lacquer goods may set up the irritation. In this country the plant, the handling of which most often causes irritation, is the *Primula obconica*. Many plants are, however, irritating to certain skins. Munro has recently recorded a case where the handling of the common ivy produced an eruption; and any eruption in those who have to do with flowers, plants, or even wood (in one case under my care a carpenter was utterly unable to work with teak), should be carefully investigated with *Dermatitis venenata* in view.

TRADE DERMATITIS OR OCCUPATION ECZEMA.—Inflammation of the skin of the hands due to irritants among which the patient works are very numerous. Washer-woman's Eczema, Baker's Itch, etc., are old familiar forms, but printers, rubber-workers, packers and others are often attacked. In most cases some lowering of the systemic tone has preceded the attack; were nothing but the irritant involved every worker would be affected. The form of the eruption varies with the irritant: suspicions of its nature are usually aroused by the limitation to the hands; and the history of the case, rather than the presence of vesicles, crusts, etc., is the guide to a correct diagnosis.

Strictly speaking, all the various trade Dermatites are varieties of *Dermatitis venenata*, and, like that form of inflammation, they speedily disappear when the cause is removed. It is, however, very often impossible for the patient to give up or even to change his occupation, and therefore some directions for the management of such cases will be of value. The principle of management is to avoid depriving the skin of the lubricant which protects it from irritation, and to supply one in its place where deficient. The directions are Unna's, and will be found most useful.

At night the patient is to wash his hands first with oil, then with soap and water. The hands are then dressed with strips of cloth spread with oil or ointment. In the morning this is removed with *dry* wool, and the parts are rubbed with the salve stick (page 30), a mixture of wax and lanolin not easily saponified by alkalies



(so often the irritant). It may be applied at intervals during the day as necessary. After work the hands should be cleansed with oily wool, thorough washing being limited to once daily. Housewives should do all their dirty work at once, then thoroughly wash the hands, and keep the dressings closely applied for the rest of twenty-four hours. Hebra's ointment is a very useful application, and weak resorcin ointments or solutions make the epidermis more resistant.

### DERMATITIS MEDICAMENTOSA.

This is probably the most convenient place to consider the "drug eruptions" caused by their ingestion. The number of drugs which, taken internally, have been reported once or oftener as the cause of an eruption on the skin, is very great, so great that it would be impossible in the limited space of a work such as the present to do more than name each. Many of them, however, are merely curiosities of idiosyncrasy, and though interesting are of little importance.

The production of a rash by a drug must in all cases be regarded as an idiosyncrasy on the part of the patient, otherwise such rashes would be invariable. Various other factors, however, come into consideration. Sometimes, for instance, the rash is due to some impurity in the drug, sometimes to the condition of the patient's stomach, and perhaps oftener to the condition of his kidneys. Iodide rashes, for instance, are more easily produced when there is albuminuria.

Speaking generally, the drug rash, as one would expect, resembles that of those diseases which are attributable to the circulation of some irritant in the blood, and thus the majority of drug eruptions are *erythematous* or *urticarial* in their nature. But, just as in the diseases of these types, the exudation of fluid is sometimes very great, and vesicles and bullæ may accidentally be produced (as in herpes iris, erythema bullosum).

The rashes associated with the more commonly used drugs may be briefly described. For fuller information on the subject, Dr. Colcott Fox's admirable critical

summary of Morrow's work on drug eruptions should be consulted ("New Sydenham Society").

**ANTIPYRINE.**—The Antipyrine rash resembles that of measles. The eruption lasts for three or four days, and is followed by desquamation. It is said to affect the extensor rather than the flexor surfaces, and generally to spare the face and the upper part of the neck. Sometimes one dose is sufficient to produce the eruption; usually it appears after some days' use.

The eruptions produced by **ARSENIC** are at present somewhat exaggerated in importance. It is seventy years since a similar epidemic of arsenical poisoning occurred in Paris; in which the symptoms so resembled those in the recent Manchester epidemic, that it is a matter for surprise that some of the antiquarians of our profession did not recognise the real condition at an earlier stage. The symptoms commonly produced are irritation of the palms and soles, which become red, moist and tender. Conjunctivitis was not so marked as it is in those patients who have taken over-doses of the drug, but a peculiar glistening appearance of the conjunctiva was present. The Manchester epidemic has demonstrated on a large scale the truth of an observation of Mr. Hutchinson's, that persons under the influence of arsenic are exceptionally liable to attacks of herpes zoster.

**BELLADONNA.**—The rash of Belladonna is of a very bright colour, closely resembling that of scarlet fever. It is most common on the face and neck, has a very short existence, and it is not followed, as a rule, by desquamation.

**BORIC ACID.**—Boric Acid is sometimes followed by an erythematous rash, but the most striking eruption is the one first described by Gowers in 1881 as resembling psoriasis. The resemblance is not usually very close; it is really a fine papular eruption, each papule becoming scaly on its apex. I have more than once seen it in patients whose bladders were being washed out with boric acid solutions.

**CHLORAL.**—The eruptions produced by Chloral are said not to be so numerous as formerly, and this is attributed to improvements in manufacture, and the



greater purity of the drug. It specially affects the face, where there is a diffuse erythematous redness. It is very much aggravated by the ingestion of drinks or food. Other forms of rash, urticarial, vesicular and hæmorrhagic, have been noted.

The COPAIBA rash is a very familiar one. Sometimes it appears immediately after the taking of the drug, sometimes a few days elapse. The type of rash is papular erythema, especially distributed around the joints, more particularly around the hip joints. It is usually associated with considerable itching, disappears when the medicine is stopped, and is usually followed by some slight desquamation.

MERCURY.—The skin rash most associated with Mercury is that which follows on its external application, but erythematous rashes, somewhat resembling those of scarlet fever, have been noted to occur after internal administration of the drug.

MORPHIA.—Owing to the wide use of morphia, the rashes produced by it are especially important. One of the most frequent symptoms of slight affection of the skin is the sudden development of intense itching, an additional warning that it should never be given, the relief of that symptom. The characteristic morphia rash is an erythematous one resembling scarlet fever, and followed by profuse desquamation. The rash is like that of scarlet fever, that if there should happen to be at the same time congestion of the throat, the diagnosis is a matter of considerable difficulty. Urticarial and papular rashes are exceptionally noted.

QUININE.—The rashes associated with this drug vary very much in character, almost every form of elementary lesion having been observed, the most common being the erythematous, which appears first on the face and neck, and may spread all over the body.

As in similar eruptions produced by other drugs, desquamation usually follows. The urticarial form, which it sometimes assumes, may be exceptionally severe, leading on the face to the closure of the eyelids, and a sensation of oppression in the chest, possibly owing to the development of lesions on the mucous membranes. Papular and vesicular eruptions are



*PLATE III.*



frequently observed, but they certainly do occur. They are sometimes widely distributed, sometimes confined to a limited area.

TURPENTINE.—The internal administration of this drug is followed by an intensely red erythematous rash, which may be accompanied by a number of papules, which sometimes develop into vesicles.

BROMIDES AND IODIDES.—The eruptions produced by the bromides and iodides are so common and so important as to deserve separate description.

The rashes produced by bromides are many: urticarial and erythematous forms are frequent, but the rash which is especially associated with the administration of *bromide of potassium* is a pustular or acne-like eruption. The eruption usually appears in patients who have been taking large doses of the drug, but cases are recorded where almost incredibly small doses have had to be held answerable for its development. It consists in the appearance of a number of follicular pustules, varying in size just like those of acne, but from that disease it is usually pretty easily distinguished by its distribution. Acne has very special seats of predilection, and very rarely extends beyond the face, chest, and back, while the bromide eruption spreads downwards on the trunk, and appears also on the limbs. The lesions are more discrete than those of acne, and there is rarely any difficulty in getting a history of the use of the drug. It may happen that the eruption does not appear until a few days after the administration has been stopped. In children, often after quite small doses—one or two teething powders—a more severe eruption is often produced. Of this I am enabled by the kindness of my friend, Mr. Dale James, Dermatologist to the Sheffield Royal Infirmary, to give an excellent illustration (Plate III). The lesions are of considerable size, dusky red in colour, and when they are squeezed pus issues from numerous openings. The resemblance between this photograph and the illustration of the same condition in the Atlas of the New Sydenham Society, shows how constant in type is this form of the eruption. Sometimes in adults numerous clear blebs appear on the trunk, closely imitating the pemphigoid rash produced by the iodides.

The *iodide* rash appears in several forms. A papular erythema is sometimes seen ; sometimes the eruption, like that produced by bromide, simulates acne ; but the eruption which is perhaps more than any other associated with iodine is a bullous one, more resembling pemphigus than any other skin disease. In rare cases the lesions produced are at first solid, and later break down in a manner so similar to the gumma, that one or two patients have been dosed into their graves by the pushing of the very drug which was the original cause of their trouble. In others, large solid tumours have developed, and cases of iodide eruption have been diagnosed as cases of malignant disease or even as leprosy. Iodic purpura is described by Stephen Mackenzie. The dose requisite to produce the rash varies. While it is usually called forth by considerable doses, cases are on record where 5-grain doses continued over a day or two have sufficed to produce serious eruptions. As a rule the more familiar symptoms of the iodism are not produced when the skin is affected.

DIAGNOSIS.—As might be expected, the diagnosis of drug eruptions is by no means easy. Their multiformity, and the various diseases which they simulate, all tend to confuse the observer. But in spite of their simulation of other diseases, there is usually something which arouses the suspicion that the diagnosis of the case is not such plain sailing as it at first appeared. Thus, the distribution of the erythematous and urticarial rashes is usually more widespread than that of the disease they simulate. For instance, the copaiba rash shows a wealth of erythema of the limbs and abdomen, which is rarely seen naturally, while the eruption of antipyrine is more diffuse than the eruption of measles. The acneiform rash of bromide and iodide, too, is much more widespread than acne itself, while, on the contrary, the gummatoid lesions occasionally produced by iodide are often at least more limited in their spread than is the true gumma. Suspicion once aroused, investigation will do the rest, and as a rule, the rapid subsidence of the eruption on the stoppage of the drug proves the correctness of the diagnosis.



## DERMATITIS ARTEFACTA.

Another and a most important form of traumatic inflammation is the eruption intentionally produced by malingerers, or hysterical girls. The particular irritant of course varies. School boys are generally aware that the "fox's pinch" can be produced by moistening the finger with saliva and steadily rubbing one spot on the right hand, and thus they secure freedom from the writing class for a few days! *Nitric acid* is commonly used by the hysterical, while *carbolic acid*, *tartar emetic*, etc., are more or less popular. Some even use burning matches. The lesions produced are always more or less "kenspeckle." The full effect of the irritant is evident right up to the border of the patch; there is not the gradual fading seen in natural disease. The lesions (and this is a very important fact) are almost invariably within reach of the right hand. Cunning as such patients are, this little circumstance usually escapes them, and is often the clue which leads to their detection.

If this self-infliction is suspected, the patient should be carefully watched, and the part so dressed that any tampering with the dressing is at once detected; indeed, the physician must become for such cases a very "Sherlock Holmes." Rank, education, intelligence, can none of them exclude the possibility of self-infliction, and the greatest tact must be exercised in all the investigations so as to avoid complications. It is no doubt in accordance with human nature that the physician should stand by his own patient, but the number of cases shown to Dermatological Societies, where the exhibitor is in a minority of one against the self-infliction theory, is very remarkable, and should be remembered in every doubtful case.

All the traumatic inflammations usually rapidly disappear when the cause is removed. Naturally, the time required depends on the extent, depth, and severity of the effect. Thus the X-rays often produce an ulcer which takes months to heal, while ordinary sunburn disappears in a day or two. The treatment is of the simplest nature, and is to be conducted on general principles. In sunburn a very useful application is

Pick's linimentum exsiccans (page 24). This, when spread on the face with the finger, dries into an invisible film which is cool, protects the skin from further irritation, and by its contractility has a directly beneficial influence upon the inflammation. If the dermatitis is severe it must be treated by the application of some soothing ointment (lead plaster and vaseline, pts. æq.) or of starch poultices for a day or two, followed by a soothing ointment.

#### NEUROTIC INFLAMMATIONS.

The diseases grouped under this heading are admittedly somewhat difficult to place. Many regard them, and with a considerable show of reason, as being closely allied to the angio-neuroses, a class of affections where the nerves seem to lose the power of control of the vessels. On the other hand, members of the class show relationships to the infective inflammations, and Unna considers it probable that they all belong to that class. Nevertheless, there appears to be exerted in them some influence which we can only attribute to the nervous system, and that influence seems to group them together so far as to justify their being thus described. I have followed the British custom in placing Pemphigus along with Hydroa, instead of among the infective inflammations where Unna places it.

#### ERYTHEMA.

(ἐρυθρός—*red*.)

"Erythema" (Plates IV, V, VI and VII) strictly means redness, and in this sense it has been applied to a number of conditions where the redness of the skin was brought about by some deep lying disease, such as an abscess or dropsical fluid distending the skin. Like many other of the older names, it has latterly become more restricted in its use, and for practical purposes it may be taken to mean the disease called by Hebra *Erythema exudativum multiforme*. This name, though comprehensive, is eminently descriptive of the eruption. We have *erythema*, or redness, *exudation* into the deeper layers of the skin; and the *forms* which it may assume are indeed *many*. In distinction from

urticaria, to which it has certain resemblances, the vessels are not compressed, and thus the lesions have always a red colour. The accompanying drawing is from a section of a nodule on the wrist. It shows the distended vessels surrounded by leucocytes, and a certain amount of thickening of the horny layer which is not present in urticaria, and is an indication of the more durable character of each lesion. More frequently



Fig. 5.—Section from a case of Erythema multiforme, showing dilated vessels, cellular infiltration around them, with some thickening of the horny layer;  $\times 50$ .

than in urticaria the process of exudation extends to the surface, and there is often in the centre an elevation of the horny layer leading to quite a considerable bulla. Such cases are often diagnosed by those unfamiliar with the disease as Pemphigus (*vide* Plate VI.)

Certain accompaniments of the disease place it almost beyond doubt that it is due to some poison circulating in the blood. Thus it is often ushered in by a rise of temperature and some disorder of one or other of the mucous membranes, or by pains about the joints. In many cases the eruption is roughly symmetrical, attacking both hands or both feet, both arms or both legs. Like a great many skin diseases, it is said to be more common in spring and autumn. If the term spring and autumn be enquired into, it will generally be found that they must be considerably expanded in order to fit in with this theory. It is most common in the young, and there is a very suggestive connexion



with the rheumatic poison, more marked in some forms of the disease than in others. The forms of the disease differ so much that it is necessary to consider them separately.

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The connexion of this form of the disease with rheumatism is very suggestive. It frequently occurs in rheumatic patients, and even more frequently in those who have suffered from some of the other diseases which are associated with that poison, such as chorea, endocarditis, and quinsy.

The disease must be clearly distinguished from a much rarer condition, Erythema induratum or Bazin's disease, which will be described among the tuberculous affections of the skin, and which also finds its victims mainly in young women.

The treatment of this form of erythema is fortunately

*PLATE IV.*



ERYTHEMA NODOSUM.

WARRINGTON & SONS LTD





*PLATE V.*



ERYTHEMA IRIS.



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Fig. 6.—Erythema iris. Showing the "target"-like spots. The patient had also lesions on the mucous membrane of the tongue.

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mucous membrane of the mouth is by no means uncommon, and the small ulcers into which the lesions are rapidly transformed not infrequently lead the inexperienced to diagnose the case as syphilis. There is not, as a rule, much pain in connexion with this form of erythema, and the general constitutional disturbance is often slight, but it is almost a certainty that the first will not be the last attack.

Left to itself, each attack runs its course in two or three weeks, and in slight cases very little treatment is required. Salicylate of soda is by no means such a specific for this variety as for Erythema nodosum, but it is helpful in many cases. If it fails, quinine often succeeds. In this form external treatment is usually required; not that it does anything to cure the disease, but it is useful in preventing the infection of the very frequently ulcerated spots. It consists in the application either of some mild antiseptic ointment such as ammoniated mercury (grs. v to  $\overline{3j}$ ), or of some protective application, such as Unna's gelatin (p. 25), before the vesicles rupture.

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The disease commences with some systemic disturbance, rise of temperature (up to  $102^{\circ}$ ), and *joint pain*, especially in the knees and elbows. In a day or two the lesions begin to appear, usually in the neighbourhood of the painful joints. In many ways they resemble those of Erythema nodosum, or multiforme; they are hyperæmic, and elevated from the escape of serum; but more or less hæmorrhage is *constantly present*. Just as in Erythema nodosum, the appearance of fresh crops of lesions prolongs the disease, which frequently lasts several weeks. The spots go through the ordinary discolouration process of cutaneous hæmorrhage and finally disappear, leaving no trace of their presence.

The rheumatic relationships of the disease are pretty evident, though why the lesions should be constantly hæmorrhagic is unknown. The occasional cutaneous hæmorrhages occurring in the course of acute rheumatism should not be too readily christened *Peliosis*.





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HARRISON & ALLEN, LONDON.







*PLATE V.*



ERYTHEMA IRIS.



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Left to itself, each attack runs its course in two or three weeks, and in slight cases very little treatment is required. Salicylate of soda is by no means such a specific for this variety as for Erythema nodosum, but it is helpful in many cases. If it fails, quinine often succeeds. In this form external treatment is usually required; not that it does anything to cure the disease, but it is useful in preventing the infection of the very frequently ulcerated spots. It consists in the application either of some mild antiseptic ointment such as ammoniated mercury (grs. v to  $\overline{3}$ j), or of some protective application, such as Unna's gelatin (p. 25), before the vesicles rupture.

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PLATE VI.



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ERYTHEMA BULLOSUM.

Some of them are almost certainly brought about by the salicylates with which the case is being treated. The erythema is the primary, the hæmorrhage a secondary, though invariable feature of the disease.

TREATMENT.—This is to be conducted on the same lines as that of Erythema nodosum. Rest, as in all hæmorrhages, is of even more importance than in that disease. The fact that the salicylates occasionally bring about cutaneous hæmorrhages need not be seriously considered. Even if a few additional ones are produced, they are of little account when the drug is gradually overcoming the disease. Quinine may, however, be tried as a substitute.

ERYTHEMA MULTIFORME.—There still remain a number of forms of erythema so numerous that they may all be grouped together as Erythema multiforme. If the forms already referred to are excluded, it may be said that those now to be described affect the trunk and face more than the limbs. Raised, red patches of various shapes appear on different parts of the body, and the process of exudation may extend to the production of bullæ or even hæmorrhages. In short, the line between this class of case and red urticaria is often exceedingly difficult to draw. The history and the progress of the diseases do, however, differ. Erythemata, are as a rule, more prolonged, and they are more usually accompanied by systemic disturbance and rheumatic pains than is urticaria. Each individual lesion, too, is more persistent, and indicates a more serious affection of the vessels than is present in that disease.

These cases are by no means so distinctly related to rheumatism as are the named varieties. The eruptions are much more chronic, persisting, it may be, for months, while rheumatic symptoms are often conspicuous by their absence. I would except from this statement a form of disease which attacks the face and trunk, the lesions of which are circular and somewhat resemble those of erythema iris (*vide ante*). Such cases, though not associated with much pain, are very amenable to the salicylate treatment, while the typical Erythema multiforme lesions with their irregular shape are by no means frequently influenced by that drug. On the other hand, Plate VI illustrates the reverse condition.

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PLATE IV.



ERYTHEMA NODOSUM.

W. H. W. & S. W. 17



The situation on the arms and the escape of the fluid from the corium into the epidermis, clinically evident as a bulla, indicate a relationship to the "Iris" variety, but the drawing is taken from a patient who had had the disease for months; that is to say, in its course it followed the type of Erythema multiforme, using the term in its restricted sense. It is a case like this which the inexperienced are apt to diagnose as Pemphigus, overlooking the fact that the exudative erythema is the primary change, and the escape of fluid more or less accidental. The fact is, the varieties of erythema are infinite in number, and but little is gained by expanding descriptions of rare though interesting forms. In all cases it is necessary to enquire very carefully into the general health, and to correct any disorders, especially of the digestive or excretory system, which may be present. Gout is not infrequently a suspicious complication. If no cause can be found the disease must be treated symptomatically, and it has appeared to me that sulphur had more effect upon the disease than the salicylates or quinine.

In addition to the numerous known causes of Erythema, the recent epidemic of small pox in Scotland has brought a new one under my notice. The first case which occurred I published without recognising any connection between the erythema and vaccination; but the subsequent occurrence of four other cases in which the rash closely imitated the recent lesions of erythema iris, convinced me that there was more than an accidental connection between the recent vaccination and the eruption. All the patients were connected more or less intimately with the medical profession, either as doctors, nurses or students. All had been vaccinated with French glycerinated calf lymph, and in all of them the vaccination had taken well and there had been no severe symptoms. In from four to five weeks after the vaccination the erythema appeared, and in all cases there was a recrudescence of activity in the vaccination marks. In the first of the cases, of which an illustration is annexed (Plate VII), the lesions were so like those of small pox that the patient was very nearly removed to the hospital. Similar cases have recently been observed in America.

*PLATE VII.*



ERYTHEMA FOLLOWING VACCINATION.

1. The first part of the document is a list of the names of the persons who have been named in the proceedings.

2. The second part of the document is a list of the names of the persons who have been named in the proceedings.

## CHILBLAINS.

*(Erythema pernio.)*

In most works this is considered as a variety of Erythema, and the redness and exudation are the same as in the other varieties. It must be admitted that in many respects it does not closely resemble the other varieties of that disease. While they are apparently dependent on some internal poison, chilblain is very clearly dependent on the external application of cold. For its development something more is required, however, and Unna considers it to be most correctly described as an acrocyanosis (*ακρος*—*a point*), for some weakening in the vessel tone, some congestion in the circulation at those extremities (fingers, toes, ears and nose), where the circulation is normally least vigorous, is necessary before the effects of cold are shown in the development of chilblains.

The symptoms are, unfortunately, only too familiar. The irregularly round, itching, burning patches which appear on the situations above alluded to, and which, when neglected or improperly treated sometimes go on to form small indolent ulcerations, usually require very little skill for their diagnosis.

They are found, of course, most frequently in those whose circulation is evidently weak, and, therefore, they occur with exceptional frequency in the subjects of tuberculosis; but there is no etiological connexion with that disease.

There is only one disease with which chilblain can be confounded, *viz.*, Lupus erythematosus. When that disease affects the fingers alone (the face remaining free) the diagnosis is often attended with great difficulty. If scars or the typical mortar-like scales of Lupus erythematosus are present, the distinction is easy, but when the disease takes the oedematous form and leaves no scars, one is sometimes driven to wait until the return of warm weather settles the matter.

The two diseases seem to be in some mysterious way related, for the subjects of Lupus erythematosus very often suffer from chilblains, while one sometimes meets with a sort of intermediate condition attacking the ears and leading to some loss of substance.



TREATMENT.—This is to be directed on lines designed to improve the circulation, both general and local. Cod-liver oil and tonics, such as quinine and iron, should be administered internally. Cold must be avoided; the water for washing must be warm; the skin must be thoroughly dried and warmly clad. Tight boots should be rigorously avoided, and vigorous walking exercise should be taken to promote the circulation. The local applications recommended are legion, but they all have one aim, *viz.*, to increase the vigour of the circulation. Iodine is one of the best; the ointment, the tincture, or tinct. iodi (3j), collodion (3j); any of these may be used. Oil of turpentine, Peruvian balsam, oil of camphor (3j-3j), have each their advocates. Boeck, of Christiania, recommends ichthyol, tannin, resorcin, āā 3j, aquæ 3v, to be painted on at night.

When ulceration has taken place some simple ointment should be applied. Leistikow gives the following as an old and valuable prescription :—

R	Balsam. Peruvian.	3j
	Argent. Nitratis	gr. v
	Ung. Spermaceti	3j

## PRURIGO.

(*Prurire—to itch.*)

As already explained, this disease must be very clearly distinguished from pruritus. In addition to itching, it is characterised by definite lesions in the skin. The cases may be divided into two classes, Prurigo mitis and Prurigo gravis, with certain features in common, but certain distinct differences.

The first variety, which was described by Willan, usually commences in adults. Tiny papules appear, especially on the extensor surfaces of the limbs, more rarely on the trunk. They may be faintly reddened, but usually are of the same colour as the skin. Owing to the patient's scratching they are very frequently surmounted by a scab. Although the spots may to a certain extent run together, they never develop a weeping surface, and thus the disease is distinguished from eczema. The disease is fortunately

rare, as the prognosis is unfortunately grave, the disease lasting in spite of treatment for years.

Prurigo gravis, or the true prurigo of Hebra, is an affection which commences in infancy, increases during adolescence, and lasts for life. In some respects it closely resembles the previous disease, and has at first the same distribution, but the papules are much more numerous; a fact which is more perceptible to the touch than to the eye. If the hand be passed over the extensor surfaces of the limbs, the sensation of stroking a nutmeg grater is conveyed to the observer. The glands draining the affected regions are always enlarged, the inguinal glands especially so.

In a fully developed case the patient is anæmic, the skin is dry and pigmented, and the amount of subcutaneous fat is notably diminished. The flexures of the joints are almost invariably spared.

It was long held that this disease did not occur in this country. The fact is that its origin had apparently been recognised and kept so prominently forward that the later developments were not recognised as a separate disease. It commences in childhood with urticaria, and the earlier stages are those which have long been recognised in this country as *LICHEN URTICATUS* (*q.v.*) If that disease is not cured, it goes on to develop into prurigo.

When once the disease is fully developed the prognosis is very bad. While great amelioration may take place, cure is almost unknown. This should stimulate the efforts of the physician in his management of obstinate cases of urticaria in children. When the lesions are examined microscopically the connexion with urticaria becomes more evident. There is œdema of the cutis and an increase in the cells around the vessels. There is however, in addition, a change in the epidermis in the direction of producing a vesicle there. The vesicle does not, however, continue its development to a fluid-containing sac, but dries up and forms the little characteristic papule.

**TREATMENT.**—For the early urticarial cases see “Urticaria.” For the fully developed cases, prolonged bathing, generous diet, and rest in bed are all important. As local applications, soft soap, tar, salicylic acid, sulphur,

or  $\beta$ -naphthol ointments are all of some value. Epicarin, a preparation of the Bayer Co., is strongly recommended by Kaposi. In two cases recently under my care a 10 per cent. ointment of this drug has been used with considerable benefit.

## HYDROA.

(*ὕδωρ*—*water*.)

The term Hydroa is an ancient one revived. Its presence in the name of a disease indicates that the eruption is bullous or vesicular.

DERMATITIS HERPETIFORMIS.—The typical member of this group is the disease known as Dermatitis herpetiformis, or Duhring's disease. Unna calls it Hydroa mitis or gravis. Judging by experience in Edinburgh,



Fig. 7.—Dermatitis herpetiformis. Cover of vesicle is practically the entire epithelial layer. In the vesicle are threads of coagulated fibrin and a few leucocytes. The vessels beneath are sheathed with exudation cells.

this disease is by no means rare. It is certainly more common in men, and no class is exempt from its attacks. It is a chronic affection of the skin, characterised by regularly recurring, widespread, itching eruptions, the characters of which vary greatly. Sometimes they are erythematous, sometimes vesicular, sometimes bullous, and sometimes erythemato-bullous; and they may vary at different periods in the same patient. The eruptions, whatever be their nature, come out in groups, pretty suddenly, and they have a distinctly symmetrical tendency. Very frequently the scapular regions are specially affected. Although the lesions



often look sore enough, the patient's great complaint is itching, and he will tear open vesicles and score his nails through erythematous patches in the endeavour to get relief from this distressing symptom. The little vesicles are rather deeper in the skin than one would gather from their clinical appearance, and while it cannot be said that they actually leave scars, they do leave behind them traces of their existence which at all events persist for a considerable time. When a section is examined under the microscope the reason of this is evident (Fig. 7). The outer wall of the vesicle is practically the entire epidermis, and that being destroyed the fact that the result resembles a scar is not surprising. Most chronic itching skin diseases are accompanied by some pigmentation. In this disease such is very marked, often in the form of little rings surrounding the site of each previous vesicle.

ETIOLOGY.—Very little, and nothing definite, is known as to the cause of this disease. It often occurs in those who are worn out with work, but it appears also in working men whose anxieties are few. The sudden, symmetrical development of the crops of eruption suggests that it is in some way dependent on nerve influence, but no definite lesions have been found in any case. Whether the disease is due to the direct influence of the nervous system, or to some poison operating on it through the vessels, remains unknown.

DIAGNOSIS.—It is not always, in fact very rarely, easy to diagnose this disease at the first sight of a patient. The disease with which it is probably most frequently confounded is Pemphigus, and, indeed, several eminent observers still deny that there is any real distinction between the two diseases. The fact is, pemphigus is an exceedingly difficult disease to define, and some apply the term more loosely than others. The following points for diagnosis may be indicated. In pemphigus the bulla is usually larger, and it arises on *previously unaffected skin*. In dermatitis herpetiformis, though it varies in size and may sometimes be large, it is usually small and is surrounded by an erythematous halo, or a group may arise on an erythematous patch. In moderate cases of both diseases there is comparatively little affection of the general health. In severe cases

of pemphigus the patient is generally seriously ill; in severe cases of dermatitis herpetiformis usually astonishingly well. From erythema multiforme it is distinguished by the intensity of the itching, which, indeed, is severer than in almost any other disease, and by the more constant occurrence of bullæ and vesicles. These undoubtedly do occur in erythema, but more exceptionally and usually later in the career of each spot. In doubtful cases some information may be got from the result of an examination of the blood, which in cases of true Dermatitis herpetiformis always contains an excess of eosinophilic cells, the significance of which is however unknown.

PROGNOSIS.—This is good as regards life, if the patient does not commit suicide on account of the mental disturbance brought about by the itching, but with regard to a speedy cure it is most undeniably bad. Cases last almost always for a year or two, and sometimes for a considerable number of years. But the hope of ultimate recovery may generally be extended to the patient.

TREATMENT.—The prolonged course in itself strikingly indicates the difficulty of treatment and its want of success. There are three things which are useful in the treatment of Dermatitis herpetiformis. *First* and most important is REST, and freedom from work and worry. In hospital practice a patient who has perhaps suffered from the disease for three years, will very probably be quite free from his eruption after a three weeks' stay in hospital under very little specific treatment. In the better classes a visit to Harrogate or to some rustic spot, with or without special baths, will in most cases be followed by the same satisfactory result. But no sooner does the patient return to his work than the disease breaks out in all its former vigour. The longer the rest, however, the better is the chance of a longer period of freedom.

The *second* remedy is ARSENIC. As one who is not in the habit of prescribing the drug very freely, my testimony to its value in this disease is unbiassed. I have seen cases which improved steadily though slowly under its use instantly relapse on a stoppage of the drug, and I think it should be used in all cases otherwise

suitable. It should be given judiciously (*vide* p. 15). The routine practice of giving 5 minims of Fowler's solution three times a day and appraising the value of the drug from the results, is not fair either to the drug or to the patient. It should be kept in mind that malignant growths have often been noted to develop in persons who have taken arsenic for several years.

The *third* remedy is one which certainly would not suggest itself as a likely one in the disease. It has, however, proved itself of value, and SULPHUR OINTMENT, first recommended by Professor Duhring, the original describer of the disease, is one of the best remedies. It is to be applied freely, and rubbed well in; in fact the patient is treated almost as if he had Scabies. The mechanical rubbing ruptures the vesicles, and this alone wonderfully relieves the itching, a fact which patients usually find out for themselves, while the sulphur seems to have some mysteriously beneficial influence on the disease.

As is to be expected in such a chronic disease, very many other remedies are occasionally used. Unna applies ichthyol externally, and gives it internally. Carbolic oil is recommended by Morris, while tar, sublimate, indeed all those remedies which relieve itching, are often applied externally. Brocq gives atropine, and Arning salicylate of soda, while others give belladonna, nux vomica, quinine, ergot, etc. Of these I believe quinine and nux vomica to be the best.

Attention to the general health is, of course, essential; indeed, this may be taken for granted in all references to treatment throughout this book. It stands to reason that if there is any disturbance of the general health its correction will give the patient a better chance of overcoming a disease of the skin or of any other special organ.

HYDROA GRAVIDARUM and HYDROA VACCINIFORME or PUERORUM.—These two diseases must also be placed in this group. They are both rare, and detailed descriptions of them may be found in most of the larger textbooks.

The former, also known as Herpes gestationis, is



regarded by Duhring as Dermatitis herpetiformis occurring during pregnancy. The lesions are usually bullous, and the prognosis is grave.

The latter is very well described by its names. The lesions resemble those of vaccinia, and appear on the faces and ears of boys during the spring and summer months, and are apparently dependent on the effects of the sun. The disease recurs year by year, gradually becoming less severe, but invariably leaving traces of its presence in the scars of its lesions.

It must be treated by protecting the skin from the injurious rays of the light (*vide* "Xeroderma pigmentosum").

### PEMPHIGUS.

(πέμφιξ—a blister.)

Pemphigus (Plate VIII) is not an easy disease to define, or to classify. As already mentioned, it is placed among the neurotic inflammations because the common type of the disease seems to be most closely related to others of that class; the rarer varieties of the disease, though they usually present more affinities to the class of infective inflammations, must defer to the majority.

As the name indicates, pemphigus is a bullous disease. But not all bullous diseases are pemphigus, and great confusion has resulted because diseases in which bullæ are present accidentally have been so described. These will be referred to under diagnosis. The generally recognised varieties are: *Pemphigus vulgaris* (*chronicus*), *Pemphigus foliaceus*, (*Pemphigus acutus*, *Pemphigus neonatorum*), *Pemphigus vegetans*. Of these, *Pemphigus vulgaris* may be taken as the type of the disease, and as the variety referred to when the word is used alone.

It is doubtful whether *Pemphigus acutus* and *Pemphigus neonatorum* should not be regarded as simply septic bullous rashes, closely allied to *Impetigo contagiosa*, for their course differs very much from that of the common variety, although Duhring says that acute pemphigus "occasionally passes into the chronic form." Certainly many of the cases thus described are severe forms of *Impetigo* (q. v.) To *Pemphigus vegetans* Unna altogether denies the right of the name.

*PLATE VIII.*



PEMPHIGUS



When examined microscopically, the bullæ have a resemblance to those of Dermatitis herpetiformis, the outer wall of the bulla consisting of the greater part of the prickly layer. Cocci have been found by Demme and others, and they are claimed as the possible cause of the disease. They are, however, found especially in the acute forms, where their presence is more easily understood. With every inclination to accept external factors as the causes of disease, it seems impossible in this case to doubt that it is somewhere in the nervous system where we must seek for the probable cause of the final form of the disease.

PEMPHIGUS VULGARIS CHRONICUS is a disease characterized by the appearance of blebs or bullæ, varying in size from a pea to a hen's egg, on apparently healthy and very slightly reddened skin. These bullæ may occur on any part of the surface, and are at first clear, and have no red halo; later they become opaque, and are surrounded by an inflammatory ring. The vessels may rupture and blood be added to the contents of the bulla (*P. hæmorrhagicus*). They are usually accidentally ruptured, and the contents discharged. Healing takes place in a day or two and without any scar. There is usually some redness, and some discoloration left.

The disease is kept up by the appearance of fresh crops of bullæ, and the duration is a quantity of indefinite length. Plate VIII, for which I am indebted to the kindness of my friend Dr. James Galloway, gives a good idea of a typical, somewhat severe case. In all stages are seen, some recently developed, some flaccid, and others in process of scabbing.

PROGNOSIS.—Some cases end comparatively soon and favorably. The majority, however, go on for months or years, gradually getting worse and eventually as gradually getting better, until at last the patient is freed from this ailment. A certain proportion of cases develop the foliaceous type. Prognosis is therefore somewhat difficult. It should always be guarded, and in old patients is always grave. Old people attacked by pemphigus are very likely to die. Sometimes this is due to exhaustion, but more often it is to be ascribed to the influence of the lesions in organs more necessary to



life than the skin, such as the intestine, bronchial tubes, etc., while it is frequently the result of some intercurrent disease.

DIAGNOSIS.—The diagnosis of Pemphigus is not difficult to the experienced eye, but there is undoubtedly too much laxity in its diagnosis by those whose experience is small. The appearance of bullæ on the skin is not sufficient for the diagnosis of pemphigus. Bullæ may develop accidentally in very many diseases, especially in urticaria, erythema, and dermatitis herpetiformis, and even in such common diseases as scabies and



Fig. 8.—Bullous eruption, "Septic" Pemphigus.

impetigo, very well-marked bullæ may be seen. Drug eruptions, too, may take a bullous form, especially when due to the iodides or bromides. They are, however, always comparatively easy to distinguish; in all of them erythema or some other lesion *precedes the development of bullæ*. There is, however, another class of cases which may, for lack of a better name, be distinguished as *septic pemphigus*, where the bullæ develop as in the true disease on apparently normal skin. The illustration (Fig. 8) (for which I am indebted to my successor in Dalston, Dr. Doughty), shows a bullous rash in the neighbourhood of a tuberculous sinus. In such cases, some poison, almost certainly microbic in origin, is evidently responsible for the appearance of the bullæ. Eruptions of

this description sometimes spread over a considerable extent of surface, but are not to be regarded as cases of Pemphigus vulgaris, though they are probably nearly related to the so-called Pemphigus acutus.

TREATMENT.—The fact that the disease appears on apparently healthy skin should suffice to indicate that external treatment is of comparatively little value. Local treatment is indeed confined to simple surgical procedures. The bullæ should be opened, and some simple dressing applied to promote their rapid healing.

General treatment is evidently indicated, but unfortunately the remedies used are distinguished more by their number than by their efficiency.

Mr. Hutchinson says that arsenic is our *sheet anchor* in treatment. It is fortunate that our mercantile marine have more reliable anchors than that furnished by arsenic in this disease. While probably the most trustworthy of a number of very unsatisfactory remedies, it very often fails, and we are driven to vague generalities about keeping up the general health, strengthening the system, etc.

Probably the best thing which can be done for a well-established case of pemphigus is to advise change of air and complete rest from work and worry.

Arsenic should be given judiciously in gradually increasing doses, until we are satisfied that the limit of tolerance has been reached, or that no benefit can be looked for. In such cases a trial may be given to other tonics; strychnine, quinine, or perchloride of mercury will be found useful in some instances, and ichthyol may also be tried. No miracle must be expected: these drugs must have the same patient, prolonged trial as the arsenic, for time is in all cases of pemphigus the great remedy.

PEMPHIGUS FOLIACEUS.—In most cases this develops from pemphigus vulgaris. I have seen it develop from a case which at one period was undoubtedly dermatitis herpetiformis, and sometimes it arises *de novo*. The eruption generally affects the whole surface of the body, and the presence of a large amount of decomposing excretion gives rise to a peculiar sickly odour. The bullæ vary in size, but are never tense, and, indeed,

it often requires close inspection to recognise them. The contents are soon discharged, and their outer walls form large flakes upon the skin which, stained with blood, have a certain resemblance to withered leaves, hence the name *foliaceus* (leaf-like). Where the bullæ have been smaller and where the skin beneath is deep red, the appearance produced has been compared to flaky pie crust.

In this, as in all widespread hyperæmic diseases, the patient is liable to be attacked by pneumonia or bronchitis.

DIAGNOSIS.—At first sight the disease looks like a moist eczema; but eczema is practically never universal, and careful inspection will result in the discovery of some of the large flat bullæ which are pathognomonic of the disease.

PROGNOSIS and TREATMENT.—The only hope for a patient with this variety of the disease is to spend his life in a bath. One patient I saw at intervals during four years, under the care of Dr. Unna, and the remedies tried on him were legion. The most successful were those which aimed at making the skin more resistant to attacks. The patient was treated like a pathological specimen. He was hardened in Muller's fluid, in picric acid, in ink, and in a variety of other reagents, and when I last saw him he was able to be out of his bath for a considerable time each day. Arsenic is not of much value in this variety of the disease. Most cases terminate fatally, and the prognosis is, therefore, always grave.

PEMPHIGUS VEGETANS (*Erythema bullosum vegetans*, Unna).—In this disease, which is fortunately very rare, the primary lesion is a little red spot, usually in the genital or axillary regions, or in the neighbourhood of the mouth. The spot enlarges, and blebs appear on the surface. These soon dry up into crusts, and then the fungating, condylomatous growths from which the disease gets its name, develop.

DIAGNOSIS.—The diagnosis from syphilis, which it somewhat resembles, is to be made by the absence of other signs of that disease and the results of treatment.

It always terminates fatally, and treatment is merely symptomatic.

*PLATE IX.*



*HERPES ZOSTER.*



vesicles the character of impetigo, and that disease will, of course, last until measures are taken for its removal.

TREATMENT.—Of this I am unfortunately able to speak from a prolonged personal experience. When the vesicles have once developed, nothing can be done except to preserve them from irritation, and, if possible, from rupture. When on the red lips they are of course almost certain to rupture, but are not so apt to become pustular as are those on the skin. Those who from experience are familiar with the earliest signs of an attack, may do a good deal to restrict it to moderate limits. Bathing the part with very hot water, or the application of collodion, will often check any further development, so also will the less pleasant application of caustic. In the periodic form, much benefit is often derived from the latter treatment. If, in each attack, the affected region is painted with Arg. nit. (gr. xx), Spt. æther. nitrosi (ʒj), the intervals between the attacks are distinctly increased, and a cure may in time be brought about.

HERPES GENITALIS, a much better name than H. preputialis, in many ways closely resembles the preceding disease. It, too, appears after some disturbance of health, especially after the combination of Bacchus and Venus, and it also tends to recur. The method of recurrence, however, is different. While H. facialis gets quite well, and remains so for perhaps a year, H. genitalis once present is apt to break out at very short intervals, usually following on some local irritation. Attack may follow on attack, but once fairly away, it is much less apt to return than the eruption on the face.

DIAGNOSIS.—Herpes genitalis is very apt to be confused with certain venereal affections, and there must be very few who have not at least once found that time has corrected their diagnosis for them.

It most nearly resembles the soft sore, and the points of distinction between the two which in most cases enable one to arrive at a correct diagnosis, are the following: (1.) The lesions (vesicles) are multiple, and appear on a reddened, slightly swollen area of skin. Unfortunately cases are very rarely seen at their commencement, and the moisture and heat of the part have

usually led to the destruction of the tops of the vesicles, and their conversion into ulcers. The soft sore is usually at first single. (2,) The ulcers are usually cleaner, not so overlaid with pus as is the soft sore. (3,) There is more itching and burning than in that condition. (4,) The lesions are not auto-inoculable. If the discharge from a doubtful case be carefully inoculated on the patient's thigh, and the result is merely a little redness, the case is herpes, while in the other a typical soft sore will develop.

The primary lesion of syphilis may also in exceptional cases closely resemble herpes, though in the majority of such cases it is probable that both diseases are present, the sclerosis being at first not developed. Most of the distinctions from the soft sore hold for the more serious condition, but in all cases of *H. genitalis* it is well for the young practitioner to practise caution and wait for developments before absolutely committing himself to a diagnosis. Were the history in such cases to be depended on, much might of course be learned from it, but the more one sees of such cases, the less becomes one's faith in their history as an aid to diagnosis. Audry very sensibly remarks that every herpes is to be regarded with suspicion which appears for the first time in an adult after a coitus.

TREATMENT.—This is simple. The application of powdered boric acid or any other unirritating powder usually suffices. A little salicylic acid (1-2 per cent.) is sometimes of value in obstinate cases, and all irritation of the parts must be avoided for at least six weeks after the disappearance of the eruption.

HERPES ZOSTER is the name round which most of the associations of herpes linger. Zoster means a girdle, and was originally applied to the form of herpes which appears first about the line of the spine, and spreads round the chest to the front in the form of a girdle. The popular name "shingles" is derived from the Latin "*cingulum*," a girdle. This form of spreading, indeed this distinct variety of the disease, or disease *sui generis*, is, however, not confined to the thorax, but may occur on any part of the surface. It usually commences with pain or a sensation of burning, after which there appear in succession crops of little vesicles on an erythematous

basis. Both the patch and the earlier vesicles enlarge for a day or two, while new ones appear in advance of the older spots. The linear distribution is not invariable. Sometimes only one, or it may be two, patches of vesicles on an erythematous base appear, and run a typical course without any successors. The pain preceding such attacks is often exceptionally severe, and as no "zoster" appears, the true nature of the case is often unrecognised. In two cases under my care, the single patches were seated respectively on the chest, and in the external auditory meatus.

Common shingles is familiar to everyone, and it has therefore not been thought necessary to give an illustration of it. Plates IX and X are illustrations of typical attacks of brachial and cervical zoster. Fig. 9 is a

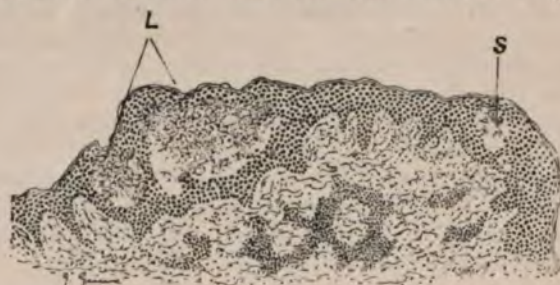


Fig. 9.—H. zoster. Shows large loculated vesicle, L, and a smaller single one, S. Both contain threads of fibrin, and a few leucocytes. Note the position in the prickly layer, and the infiltration around the vessels in the corium.

section from Plate X. It shows the seat of the vesicle in the prickly layer, and the multilocular character which is often present. The fact that there is a considerable amount of epidermis below the vesicle explains how such cases heal without scarring. In normal cases the vesicles soon dry up, in a week or ten days the scab is separated, and the patient is recovered. Such is the course in young people; but in those beyond middle life not only is the pain at the commencement usually more severe, but it persists in a still severer form after the local manifestation has passed away. Unless from some complication the vesicles have become purulent, there is no resultant scarring, except in supra-orbital herpes, where scarring is the rule, and where there is also usually some conjunctivitis.



ETIOLOGY.—The nature and etiology of the disease have long been a subject of dispute. Before entering on any of the theories, it is well to note certain facts which are almost universally admitted. There is usually some disturbance of the general health a day or so before the eruption appears; with it may be a little elevation of temperature. One attack of the disease almost certainly protects from subsequent ones, and in the experience of those who are in a position to see a large number of cases, it is very clear that the disease occurs in small epidemics. The point in dispute is whether the disease is associated etiologically with the nerves, or with the blood-vessels. Recently the matter has been very much cleared up by the admirable work of Head. He and Dr. Campbell, of Rainhill, wisely decided that as herpes was not a fatal disease, and was therefore not observable in connexion with ordinary *post-mortem* examinations, that the best plan would be to follow out cases which occurred in institutions, such as asylums, where many patients spend their entire lives, and where they die. They have recently published the results of these investigations, in the course of which they have followed up and made *post-mortem* examinations in nineteen cases at periods after the eruption varying from three to seven hundred and ninety days. They found in every case evidence

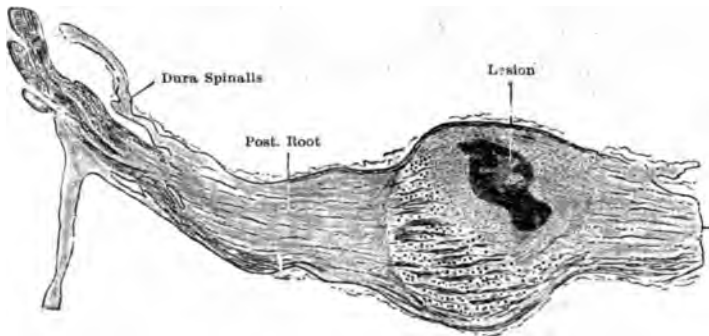


Fig 10.—Longitudinal Section of 13th Dorsal Ganglion. Death 103 days after eruption first appeared. (By permission of Dr. Head).

of some lesion in the ganglion of one of the posterior roots (Fig 10). Usually this lesion was a hæmorrhage,

but cancer and injury were also observed. The acute changes consist in an extremely acute inflammation, with the exudation of small round deeply-staining cells; extravasation of blood; destruction of the ganglion cells and fibres; and inflammation of the sheath of the ganglion over the inflamed portion, which is mainly in the dorsal aspect of the ganglion. In the peripheral nerves the changes are, as was to be expected, an acute degeneration, followed by a greater or less amount of secondary sclerosis: the degeneration could be traced to the fine twigs in the skin of the area of the eruption.

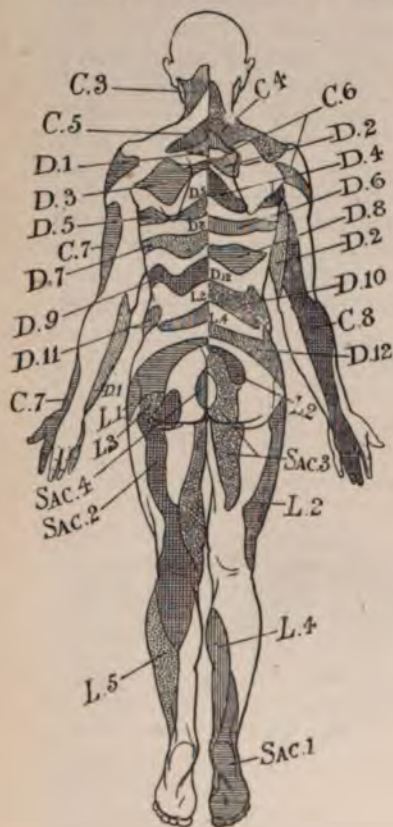


Fig. 11.



Fig. 12.

Diagrams of the areas served by the nerve fibres passing through the several spinal posterior root ganglia. (By permission of Dr. Head).

They confirmed the epidemic incidence of the disease, and they point out that the cells in the posterior ganglion are comparable to those in the anterior horn of the spinal cord, and they make what seems a perfectly fair comparison between herpes and acute anterior poliomyelitis.

The distribution of the eruption depends on the distribution of the fibres passing through this ganglion, and not on the distribution of any particular nerve. The body, according to Head's theory, may be divided into segments, each one served by the nerves passing through one ganglion. This very much simplifies the comprehension of the distribution of the eruption, for it was impossible to convince critical students that the eruption of Shingles could possibly be in the distribution of any particular nerve when it obviously crossed several ribs in its course. Through the kindness of Dr. Head I am enabled to reproduce his diagrams (Figs. 11 and 12), showing the different areas. This has been worked out from the examination of sixteen cases, and it will be seen that the areas correspond to the distribution of Herpes as ordinarily observed.

His conclusions, which seem to be fully supported by his arguments, are that Zoster is an acute specific disease of the nervous system, starting with a prodromal period and accompanied by a slight rise of temperature and some *malaise*. The rash may be taken to represent the physical sign, which most commonly appears on the third or fourth day, and is comparable to the rash of other fevers.

There is one curious omission in Head's work, *viz.*, any reference to the frequency with which Herpes occurs in persons who are taking arsenic. This observation, made long ago by Hutchinson, received the most ample confirmation during the recent Manchester beer-poisoning epidemic. It is just a little difficult to see why the internal administration of arsenic should favour the outbreak of an acute specific disease of which an invariable feature is a hæmorrhage in a posterior spinal ganglion.

TREATMENT.—As the disease has a distinct course, and a natural tendency to get well, little active treatment is required. Locally, I believe the best application to

be Unna's zinc gelatin, which when painted on the spots at their first appearance, seems to arrest their further development, and lead to their more rapid disappearance. Others recommend free powdering of the part with some harmless powder, and the application of a roll of cotton-wool and a bandage. Some advise the application of compresses soaked in an aqueous, alcoholic, or ethereal solution of picric acid, and Russell finds menthol paste useful. The object of all local treatment is simply to prevent the lesions from being ruptured and contaminated with dirt or micro-organisms. The pain is sometimes so severe that hypodermic injections of morphia are required, but usually antipyrin or some similar preparation suffices to make the pain at least bearable. For the treatment of the persistent neuralgias which are especially liable to occur in elderly people, a prolonged course of tonics is often requisite. Arsenic, phosphorus, iron, bromide of potassium, etc., all have their advocates, and in very obstinate cases the use of the constant current is sometimes followed by great relief. When ulceration has occurred, attention should be directed to the cleansing of the part, and the prevention of the absorption of poisonous products by the application of some antiseptic ointment. In supra-orbital herpes occurring in men, perhaps no special precautions need be adopted, but when the disease occurs in young ladies, efforts should be made to prevent the development of the very considerable scars which usually follow that form of the disease. This is best done by removing the scab, as the amount of pressure which it exercises determines the depth of the resultant scar. The part should then be kept soft by the free application of ointment, so as to give the granulations every chance to replace the loss of substance.

#### INFECTIVE INFLAMMATIONS.

Strictly speaking, the infectious fevers belong to this class, but since they are not in this country regarded as diseases of the skin, and since, indeed, the skin lesion is in most of them a comparatively unimportant feature, we shall pass them over, and consider only the local infective inflammations of the skin proper.

Among these there are one or two which have the

power of generalising, such as anthrax (splenic fever), glanders, and tuberculosis, but here we shall consider only their local effects upon the skin.

The local infective inflammations of the skin may be divided into those of the epidermis and those of the corium, with one or other of these as the *main* seat of the eruption. The inflammations of the epidermis may be subdivided according as they are located in the surface epithelium, or in the glands and follicles of the skin. Those seated in the surface epidermis, the superficial inflammations or cutaneous catarrhs, may be further subdivided according as the eruption is moist or dry. These terms, while useful clinically, are only relatively distinct, for many catarrhs which are clinically dry are associated with increased moisture of the epidermic cells. In far too many diseases we are as yet ignorant of the actual infective cause. In others the probable causal relation of some germ to the disease is widely admitted, while there are others which it is only by analogy that we can consider infective at all. It is not necessary that the cause of a disease must be present at the actual place where signs of irritation are observed microscopically. Parasites of all kinds have the power of exerting their influence at a distance; and be the parasite gross, as in the case of scabies, or minute as in the case of impetigo, the effects produced by its presence may be found in localities remote from where the actual parasite can be detected. This is what is called chemiotaxis, the poison produced attracting the mobile elements of the tissues. Thus, in certain pustular affections of the skin which are clearly inoculable, the cause of the disease will be found in a small colony of germs limited to the apex of a considerable pustule, though the vessels for some distance around show evident signs of disturbance.

#### INFLAMMATIONS OF THE SURFACE EPIDERMIS.

#### SCABIES.

#### (PLATE XI.)

This is the most typical of the moist superficial inflammations. The lesions produced are vesicles, which may rupture and discharge fluid, or may develop



into pustules or even large bullæ. If the irritation be kept up, the skin becomes greatly thickened, and fissures are developed. To this severe form the term Norwegian scabies has been applied.

One advantage of placing this disease at the commencement of the list is that the nature of the processes



Fig. 13.—*Acarus scabiei*. Female, ventral surface.

occurring in the others may be deduced from its well-known phenomena. The *Acarus scabiei*, which is the cause of the disease, is a small insect, just visible to the



Fig. 14.—Section from a case of Norwegian scabies (diagrammatic). Shows position of the itch mite, the eggs in the oblique burrow, and in other parts of the horny layer; sections of acari and fecal masses (the black granules). There is some cellular infiltration of the tissues beneath.

naked eye, about the size of the perforation of a fine sewing needle. I have followed the majority in giving an illustration of the acarus, by means of which the





*PLATE XI.*



SCABIES.

exact number of its legs may be seen. Such details are no doubt very interesting to the zoologist, but are of little importance to the practical physician. All that is necessary is to know that the actual disease is produced by the female, which, after impregnation, excavates oblique tunnels in the horny layer of the skin and lays her eggs as she advances. Schiscka says that in exceptional instances the acarus reaches the Rete, and that when it does so the resultant inflammation is very much greater than usual. The irritation produced gives rise to itching and also to the exudation of a certain amount of fluid, clinically evident as the vesicle, in the neighbourhood of which the acarus may frequently be found. The tunnel which the insect excavates is observable on the skin of those whose attention to cleanliness is not great, as a black line, often, though by no means invariably, zig-zag. The favourite seats for its ravages are the thin skin on the webs of the fingers (Plate XI), the anterior borders of the axillæ, the genitals in males, and the areolæ of the nipples in females. Its general distribution is determined by the patient, being found most marked in those parts which he can most easily reach to scratch. Thus it is only exceptionally found on the back, while the lesions are usually numerous on the abdomen. One important point in its distribution is that the face is very rarely indeed affected, and this is often a valuable assistance in diagnosis in the case of a wide-spread, itching eruption where none of the burrows can be made out. The distribution just mentioned refers rather to the disease as seen in the class of patients who attend hospitals and dispensaries. In the better classes, where the hands are more frequently washed, the anterior axillary borders are often the only sites of any evident lesion, while in children the feet are very often as much affected as the hands, and in this disease, as in most diseases in children, the tendency for the vesicles to become pustular is very marked. In this connexion it is well to bear in mind that, while the statement made above that the face is practically never affected is, regarding scabies, strictly true, yet when the disease becomes complicated by impetigo there is nothing to prevent that disease from appearing on the face, and it frequently does so.

The patient's great complaint is itching, which is most troublesome at night. The removal of the clothes before the patient gets into bed seems to be to the acari an intimation that the time for their nightly prowling has arrived. To one whose opportunities of seeing the disease have been considerable, the disease is usually easy to diagnose, but the statement made by some that it is always possible to trace the acarus to its lair does not accord with my own experience, and the diagnosis has often to be made simply from the account of the itching (most marked at night), the history of the case, and the distribution of the eruption.

In the majority of cases no doubt it is not difficult, and in some cases it is most important that one should be able to convince the enraged and sceptical patient, by demonstrating to him under the microscope the cause of his disease. For this purpose a typical burrow with a fresh vesicle at the end is selected, and a fine needle is passed along it in the direction of the vesicle. By raising the needle the whole tunnel is opened up, and the acarus may quite frequently be discovered clinging to the end of the needle.

Left to itself, the disease leads to great thickening of the horny layer, and develops into the so-called Norwegian scabies, in which country this neglected form seems to be most frequent.

TREATMENT.—In this respect also scabies is an excellent introduction to the infective inflammations of the skin. Knowing that the disease is produced by a definite cause, our object is to destroy it, and having removed the cause to allow the patient to recover. Were we as familiar with the cause of all infective inflammations, and had we as sure a remedy for their destruction as we have in this case in sulphur, the treatment of the diseases of the skin would be very much simplified. The method of curing scabies which is followed in Paris and in some of the London hospitals is on the "while-you-wait" system. The patient is immersed in a bath containing 3 ounces of sulphide of potass to 30 gallons of water. After soaking for some time in the bath he is thoroughly scrubbed with soft soap and a strong nail brush, special attention being devoted to the more affected parts. After this he

reclines for a further period in the bath. After coming out of it he is rough-dried, rubbed with sulphur ointment, and dismissed cured. Perhaps a method more widely followed is to give the patient a daily soaking in a bath, and to rub sulphur ointment in twice daily for three days. Various modifications of sulphur ointment are applied in different neighbourhoods, but the sulphur is always the essence of hospital treatment. It is important to bear in mind that sulphur itself is able to produce a considerable irritation and inflammation of the skin, and patients should be definitely instructed not to continue its application on their own discretion, but only for the number of days the physician has ordered. Three days usually suffice ; any itching which is still present at the end of that period is due to the sulphurs and will disappear when the application is stopped. If a patient, on his own initiative, continues to apply and re-apply the sulphur, his last state will be very much worse than his first. A modification of this method which is often useful, and which is certainly more cleanly than the sulphur ointment method, is the use of a sulphur soap. The patient has a prolonged soaking in a warm bath, and on coming out is lathered freely with sulphur soap. This is well rubbed in, and a couple of baths and four latherings very often suffice for a cure.

Sherwell of Brooklyn says that the best effects are got by using sulphur as follows. The patient has the usual bathing, and before he goes to bed a teaspoonful of flowers of sulphur is deposited between the sheets, by shaking which the sulphur is distributed all over the bed and comes in contact with the acari, when they are most approachable. Sherwell strongly recommends this treatment, and says it is more useful than any other he has tried.

There are two classes of patients at least who need to be specially considered in treatment. In children the irritation is usually severe, and pustulation is a very prominent feature. For them sulphur ointment, if applied, must be diluted. If there are many so-called "eczematous" complications, the substitution for sulphur of Kaposi's  $\beta$ -naphthol ointment, 40 grs. to the oz., has the advantage that it calms these complications

instead of aggravating them as sulphur often does. In the case of adults where the eczematous complications are very marked, the same plan might quite well be followed, always bearing in mind that, harmless though  $\beta$ -naphthol usually is, cases of poisoning have resulted from its excessive use. Recently Kaposi has written strongly recommending a new drug known as Epicarin, which he says is useful both in this disease and in Prurigo. It might be convenient to use in certain cases, for it seems to be absolutely innocuous. Kaposi recommends a 10 per cent. ointment. Another class is made up of those whom one does not wish to inform that they are suffering from such a vulgar disease as itch. If this fact must be concealed, sulphur ointment must be avoided, for it practically carries its diagnosis with it. Useful substitutes for it are stavesacre, stryax, and balsam of Peru. This latter has recently been lauded as the most cleanly and pleasant way of curing the disease, and the vapour of balsam of Peru is said to be six times as destructive to the acarus as that of sulphur.

Perhaps better than simple sulphur ointment is an application in which certain adjuvants are present, namely, prepared chalk, which aids mechanically in the opening up of the burrows, and soft soap, which helps the penetration of the sulphur along them. Useful formulæ are :—

R	Sulphur Præcip.	ʒij
	Cretæ Præp.	ʒiij
	Saponis mollis et Vaselini	āā ʒj

---

R	Sulph. Præcip.	
	Ol. Fagi	aa ʒss
	Saponis Viridis	
	Adipis	āā ʒj
	Cretæ Præp.	ʒj
	(Wilkinson's Ointment.)	

---

R	Styracis	
	Ol. Olivæ	āā ʒij

---

R	Bals. Peru	
	Sp. V ni	āā ʒ
Sig.	To be painted on with a brush.	





*PLATE XII.*



CHEIROPOMPHOLYX.

## CHEIROPOMPHOLYX (POMPHOLYX ; DYSIDROSIS).

(*χελρ*—*the hand* ; *πομφόλυξ*—*a bubble* ; *δύς*—*difficult* ;  
*ιδρώς*—*the sweat*.)

This is one of the diseases which were salvaged by Tilbury Fox from the rubbish-heap of eczema. As the name signifies, it consists in an eruption of small vesicles upon the hands, more rarely also on the feet. It is almost invariably symmetrical. There is usually a certain amount of burning and itching. The small vesicles are embedded in the skin, projecting very little above it. They are especially distributed along the borders of the fingers, and have a peculiar, greyish, translucent appearance, which is very aptly compared to boiled sago grains (see Plate XII). After a few days' existence the vesicles dry up and are gradually thrown off with the exfoliating skin. Naturally, they do not rupture, but accidentally they sometimes do. The disease is found most frequently in those whose hands sweat freely, and is especially common in young women, although not restricted to any age or sex. When an attack has once made its appearance, the patient is liable to a recurrence on any slight disturbance of health. It is, indeed, related of one of the investigators of the disease on his own skin, that, running short of material, he spent a riotous evening with some students in a German beer garden, and was rewarded by what he desired—the appearance of a fresh eruption.

Although the description already given applies to the great majority of cases, there are others where the disease spreads further than the fingers, on to the hand, and even up the arm. The vesicles in that case are larger, and the skin being thinner, they very commonly rupture and exude a little fluid. The fact that they do not rupture on the fingers is not due so much to any special peculiarity of the vesicles, as to the character of the skin in this situation. When for instance eczema develops on the palm of the hand, there are very rarely any vesicles visible at all. The fluid spreads itself through the layers of the skin, and the result is the scaling of large masses. On the back of the hand, on the contrary, the vesicles very rapidly form and readily rupture ; the skin at the

sides of the fingers being intermediate in thickness between these two, prevents to some extent the development of the vesicles and usually also their rupture.

ETIOLOGY.—Two views are held as to the nature of Cheiopompholyx, one party holding that the disease is neurotic in origin, and pointing out its occurrence in hysterical females, the other regarding it as a disease of local origin, in all probability due to micro-organisms. While it is not possible to decide between the disputing authorities, it would appear that hysteria and neuroses do not exclude the possibility of infective agents, and that in all probability the infective theory is the correct



Fig. 15.—Vesicle in the prickly layer, the epithelial cells pushed aside, and a few leucocytes in the cavity. From a section by Winkler and William;  $\times 60$ .

one. Unna has described in connection with it a bacillus which he has found in all the cases he has investigated. It grows in the upper border of the vesicle, just where, in carefully prepared sections, a minute, funnel-shaped opening may usually be found.

From the histological standpoint there are also two theories with regard to the nature of the lesion. The name dysidrosis was given to it by Fox, since he considered it to be due to an accumulation of sweat caused by some obstruction in the sweat pores. In this he was supported by Crocker, who published drawings showing a vesicle directly in the course of a sweat duct. The other and almost certainly correct view is that the vesicles are inflammatory, and that they have no special relation to the sweat ducts. Williams showed that Crocker's drawings were fallacious, by a series of sections, some of which showed the appearance figured by Crocker, but when the series was followed out

the duct was found to be pressed to one side by the accumulated fluid. It is, however, an undoubted fact that those who sweat freely are more liable to the disease, and, according to Unna, this is explained by the fact that the organisms flourish in the sweat. Fig. 15 shows the seat of a vesicle in the epidermis with the thick horny layer above it.

PROGNOSIS.—As regards any individual attack the prognosis is good, but the tendency to recurrence is so great that a patient should always be warned of its likelihood. Like many other diseases, it is said to prefer spring and autumn for its appearance, but as usual these terms must be considerably expanded if the statement is to hold good.

TREATMENT.—Since there are two theories, so there are also two lines of treatment. Those who believe in the neurotic origin of the disease largely neglect local treatment and administer tonics to their patients. Under this treatment they undoubtedly recover, as do patients who have no treatment at all. The local treatment, which has proved most satisfactory in my hands is frequent bathing in sublimate solution (1 to 4,000) and the application either of a salicylic ointment or a salicylic dusting powder (2 per cent.) When the disease has subsided, it is most important that steps should be taken to prevent its recurrence, and probably the simplest is the use for a considerable period of resorcin, salicylic, or formalin soap. Suitable tonics should be administered if required.

When the disease has spread to the hands and arms a more soothing treatment, such as simple dusting powder or calamine lotion, may be required; for there the disease presents very little difference from an acute vesicular eczema, except that there is not the same tendency for the vesicles once ruptured to continue to discharge.

## MILIARIA.

(*Milium*—a millet seed.)

Miliaria is an affection not very distantly related to cheiropompholyx. Like it, it is associated with a tendency to excessive sweating, especially when the sweating takes the form of a sudden, profuse perspiration,

but it has no special localisation, and is not so prone to recur. It is not, however, the same disease as sudamina with which it is often confused, but is a true inflammatory disease, with the development of vesicles in the prickly layer of the epidermis not unlike those of cheiropompholyx.

The vesicles develop on a tiny red papule, and form a white summit to a red cone. The disease is most common on the trunk, may spread over a large area and may prepare the way for a widespread attack of eczema. It is, naturally, most common in the summer months, and is probably identical with many forms of tropical "prickly heat."



FIG. 16. Miliaria. Section of a double vesicle evidently developed in the prickly layer and evidently inflammatory. Leucocytes and epithelial cells in the cavity. After Unna;  $\times 50$ .

**TREATMENT.**—This is simple. Under a mild antiseptic dusting powder (ac. salicyl. 3, talc 97 parts) or the free application of the lead and tar lotion (p. 121) the eruption will soon disappear.

## SUDAMINA, OR CRYSTALLINA.

(*Sudor—the sweat.*)

Although this disease appears in Unna's classification under another heading, it is so often confused with miliaria, that probably the distinction will be best explained and understood by considering it here. It is, as Crocker says, simply the result of the sweat being unable to escape, and consequently being dammed up in the pores. The spots only appear when sweating is excessive, and are most commonly observed in certain fevers, pneumonia, acute rheumatism, typhoid, measles, etc., where the congestion of the skin favours







IMPETIGO CONTAGIOSA.

the blocking of the pores. The result of the damming up of the sweat by a very thin horny layer is a clear, crystal-like vesicle, almost exactly like a drop of clear fluid on the surface of the skin. The nature of the lesion is very well seen in the accompanying illustration (Fig. 17), which is "after" Unna.

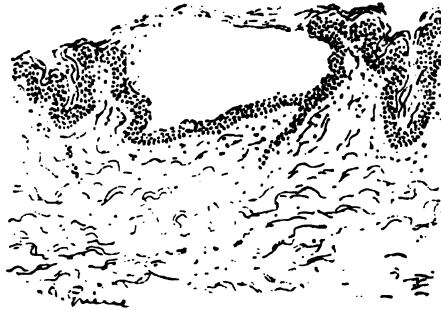


Fig. 17.—Shows the vesicle to consist merely of a distension of the horny layer. At the lower right-hand corner of the vesicle is a portion of a sweat duct. After Unna;  $\times 50$ .

The condition is one which requires no treatment. As the horny layer exfoliates the fluid is discharged, and as the fever diminishes so does the tendency to the production of fresh lesions.

## IMPETIGO CONTAGIOSA.

(*Impeto—to rush on.*)

The term "impetigo" was used by the older authors in a much wider sense than it now is, and the term Impetiginous Eczema still lingers, though it merely indicates the prominence of suppuration and the presence of purulent crusts. The term used alone without any qualifying adjective is generally understood to apply to the disease described by Tilbury Fox as *Impetigo Contagiosa* (Plate XIII). This is one of the commonest of skin diseases, one of the simplest to diagnose, and one of the easiest to cure. It occurs at all ages, in all classes, and in both sexes, but is commonest amongst the poor. Not infrequently it appears in epidemics, and it has more than once been noted in boy's schools where Rugby football is played, where it goes by the name of "football itch."

The first outbreak of the eruption is rarely observed, but as it spreads all stages may be observed on one patient, and we then see that the disease commences as a minute, reddish spot, which rapidly becomes a vesicle, and, to speak *more Hibernico*, becomes pustular almost before one has time to observe the vesicular stage. With almost as great rapidity the pustule dries up into a honey-yellow crust, which in a little over twenty-four hours is so loosely adherent to the skin that it appears to have been artificially stuck on. When separated at this stage the skin beneath is merely reddened, but if it is separated before it completely dries, the skin is still moistened with a little pus.

There are several varieties of the disease. That which has just been described is the commonest type, and Unna applies to it the term *Impetigo vulgaris*. In another form the vesicular stage is more prolonged, and the vesicles reach a greater size before becoming pustular. The whole process is therefore slower, and to this variety Unna gives the name *Impetigo serosa*. This is the form which is frequently mistaken for Pemphigus by the inexperienced; especially as the lesions present quite a remarkable resemblance to the bullæ of that disease. A third variety is known as *Impetigo circinata* (Plate XIV), which spreads in rings, somewhat resembles, and is often confused with, ringworm; but the rapidity of the spread, the pustular nature of all the lesions, the absence of the fungus, and the ease with which it is cured, show that it is not that disease.

The disease is very often associated with the presence of pediculi upon the scalp, and the dermatitis which appears on the scalp in that condition is for all practical purposes merely a variety of impetigo contagiosa. (The conditions on the scalp are very different, and the appearances are therefore modified, but when the disease is spread to other parts of the body by the patient's scratching, the lesions developed are identical with those of impetigo contagiosa.)

Bockhart's Impetigo may be described as a succession of little epidermic abscesses; it is pustular from the commencement, and is not difficult to diagnose from the other varieties.

When the disease affects the thicker skin on the

*PLATE XIV*



IMPETIGO CIRCINATA.





hands and fingers, the appearances are very much modified. Our American friends apply to it the descriptive term of "run around," and it is often spoken of as a superficial whitlow. The explanation of the different appearances is simply that the skin is thicker, and the fluid does not so readily reach the surface.

ETIOLOGY.—That the disease is due to a micrococcus, no one now denies. Unna still holds to his position that it is due to a staphylococcus, which shows peculiarities of growth distinguishing it from the ordinary staphylococci of suppuration, and he is not without followers.

Engman obtained pure cultures of the *S. aureus* from typical cases, and inoculation resulted in the development of clear vesicles from which the staphylococcus was again obtained. The majority of dermatologists however, follow Sabouraud in attributing the disease to the streptococcus, and it is certain that it may be obtained pure from the vesicles in at all events a very large proportion of the cases. In the crusts, staphylococci are undoubtedly present, and it may be that streptococci are no longer to be found. Bockhart's Impetigo is admitted on all hands to be due to the staphylococcus aureus.

PROGNOSIS.—Left to itself the disease will go on indefinitely, inoculating and re-inoculating itself on different parts of the body; while deeper infections of the skin, such as boils, are frequent accompaniments of neglected cases. The term neglect must be taken to apply not only to untreated but to improperly treated cases, for very frequently treatment has been persistently carried out without effect because directed upon wrong lines.

TREATMENT.—This is very simple. The method invariably followed in the Edinburgh Royal Infirmary, a method so successful that it is unnecessary to recommend any other, is the following: The scabs are removed by boracic starch poulticing, and the part is dressed with an ointment consisting of 5 grs. of ammoniated mercury to an ounce of vaseline. One would naturally think that more powerful antiseptic ointments would be more rapidly efficacious, but experience shows the contrary. Even an ointment of 10 grs. to the ounce

is not so successful. The application of too strong an ointment is one of the mistakes often made in treatment; another common one is the application of the ointment upon the top of the crusts. If the method described be followed out, there will be no difficulty in curing *Impetigo contagiosa*.

### PEDICULOSIS CAPITIS.

The lesions produced by the presence in the hair of the scalp of the *Pediculus capitis* very closely simulate those of contagious impetigo, and indeed, that disease often seems to originate in the irritation caused by the parasite. There are certain differences, however, by which the experienced eye can diagnose the presence of the pediculus without seeing either it or its ova.

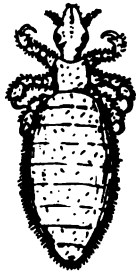


Fig. 14.—*Pediculus capitis*:  $\times 40$ .



Fig. 15.—Ovum of the *Pediculus capitis*, or "nit," attached by a sheath to the hair:  $\times 50$ .

The crusts are not so discrete as in *Impetigo contagiosa*, they cover continuously considerable areas of the scalp, and there is usually more exudation, more moisture, more "eczema," than in that disease. Further, at least in almost all cases of any severity, the crusts have a peculiar *dirty, greenish colour*, which is practically pathognomonic of pediculosis.

The disease is commonest in the children of the poor, but as in all parasitic diseases, rank offers no protection. It is almost invariably *limited* to the *back of the head*.

If a line be drawn from ear to ear across the vertex there will be found very little disease in front of it. Usually the parasite (Fig. 18) is very much in evidence ; if not, when the hair is carefully examined the ova are seen attached to it, as shown in Fig. 19.

Very often the irritation in the scalp leads to swelling and breaking down of the glands at the nape of the neck, and considerable abscesses may form.

The old discussion as to whether the pediculi or the "eczema" was the primary disease may be regarded as closed. It is the pediculi which cause the irritation, the cutaneous catarrh, the "eczema."

TREATMENT.—*Causa sublata, tollitur effectus* is not always true, certainly not in many diseases of the skin ; but in this one, at least, the proverb holds. The cases where the destruction of the cause is not followed by the rapid disappearance of the disease are very few in number.

Often enough the irritation looks so great that the inexperienced naturally enough hesitate to follow the somewhat heroic treatment which they would at once recommend in milder cases ; but in the vast majority of cases the results will be so satisfactory as to give confidence on future occasions.

There are, no doubt, very many applications which are certain death to the pediculus and its ova. The one which is invariably used in the Royal Infirmary is *common paraffin oil*. The patient is directed to anoint the head freely, to cover it with rags soaked in the oil, and to wear over all an oiled silk bathing cap. A second soaking follows twelve hours later, and after twelve more the scalp is thoroughly washed with soap and water. This may at first appear to increase the irritation, but very soon that dies down and the case is cured. The method also removes some of the less firmly adherent "nits" from the hair, but for the rest other means must be used. Probably the old-fashioned tooth comb is the best of all. Lotions of acetic acid (1-4) are useful in loosening the binding cement which fixes the nit to the hair. If the irritation is so great that this method is really inapplicable (although, as has already been indicated, it may be used where there is considerable irritation), an ointment of

ammoniated mercury (grs. x- $\bar{3}$ j) may be used for a day or two until it has subsided, when the paraffin method may be had recourse to. With regard to the glands, incisions should only be made when *urgently* indicated. When the irritation is removed considerable swellings disappear in a surprisingly rapid manner.

### PEDICULOSIS PUBIS.

The *Pediculus pubis*, or crab louse (Fig. 20) differs somewhat from its cousin the *Pediculus capitis*. It has a preference for the stronger hairs, and is found in the genital regions, in the axillæ, and on the eyebrows.

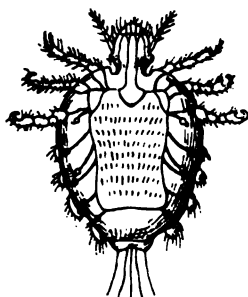


Fig. 20.—*Pediculus pubis*: × 50.

On the eyebrows the lesions tend to be impetiginous, but in the other situations the irritation of the parasite gives rise to a drier form of dermatitis.

Itching is the great complaint of patients thus affected, and often enough there is very little to be discovered on inspecting the parts.

Patches of greyish discolouration are sometimes seen on the skin, due to a pigment produced by the insect, reddish deposits of faecal matter on the hairs are noted by Erasmus Wilson, and the ova are seen attached to the hairs, as on the head.

**TREATMENT.**—Some form of mercurial ointment is usually prescribed. White precipitate is excellent, red precipitate had the approval of the poet Burns, and ordinary mercurial ointment is the usual chemists' prescription. As in scabies, care should be taken that the disease is not over-treated, and a dermatitis, due to the application, substituted for the disease.

## ECTHYMA.

(ἐκθύμα—a *pustule*.)

Ecthyma is an aggravated form of Impetigo contagiosa. It is due to the implantation and growth of the streptococcus in the skin, and its presence almost invariably indicates some disturbance of the general health. It most frequently occurs in those who are out of work and therefore insufficiently fed.

The lesions are most common upon the legs. They are deeper than those of Impetigo contagiosa, and are usually surrounded by an angry red halo. When the surface of the pustule is removed an actual ulcer is often disclosed.

TREATMENT.—Locally some mild antiseptic dressing should be applied, but no local treatment will be successful unless the general condition of the patient is restored by the administration of good food, abundance of vegetables, and some form of iron.

## ECZEMA.

(ἐκζέω—to *boil over*.)

"*Eczema is the term commonly applied to any wet or scaly inflammation of the skin, of the cause or nature of which the observer is ignorant.*" There is no sentence in the first edition of this book which I have greater satisfaction in re-writing than the above. The word Eczema is almost literally translated by the English word eruption (bursting out or boiling over), and it is clearly open to anyone to call any rash upon the skin "an eruption." The skin responds to irritation, just as do other organs, by hyperæmia and exudation, and according to the irritant one or other of these, or their results, may predominate. To those who know nothing, or next to nothing, of the diseases of the skin, most eruptions are eczema, but as knowledge increases one is able to identify in certain cases either a definite recognisable cause or a definite sequence of events which enables him to arrange certain diseases under more instructive headings. This is well illustrated in the case of such common diseases as scabies and ringworm, particularly that form of the latter disease

which affects the groins, and which is still often called *Eczema marginatum*. These diseases in appearance resemble "Eczema," and it is only the identification of their cause which at once justifies their separation from that chaotic conglomeration. Many chemical irritants produce inflammations of the skin accompanied by moisture and scaling, which some indeed regard as eczema: to most, however, the recognition of a definite cause is sufficient to separate them from that disease. In a great proportion of cases we are still ignorant of the causes, and until knowledge is further advanced it is necessary to describe Eczema, although the number of forms and varieties which must be considered more than suggest that we are dealing with more than one disease.

In this collection of inflammations of the skin we recognise certain forms of eruption which are constantly repeated. The exudation may be comparatively small in amount, and may be localised at certain spots. The skin is then raised in a little elevation, to which the term *papule* is applied. Should the exudation be more abundant, some of it makes its way to the surface, raises the horny layer over it, and is evident as a *vesicle* shining through it. If the exudation is greater in amount, the horny layer is ruptured and the fluid continues to exude upon the surface, making a weeping eczema. This fluid forms an admirable breeding ground for micro-organisms, and these attract leucocytes from the vesicles, with the result that a *scro-purulent* crust is formed upon the surface. In some cases the irritation leads to an excessive dilatation of the blood-vessels; the skin becomes abnormally red; and to that form of the disease the term of *Eczema rubrum* is applied.

These forms are used in our present state of insufficient knowledge as a convenient means of classification, and Duhring has happily called them "Lesional varieties of Eczema"; while he has further divided them into "Regional varieties," according to the part of the body which they affect.

ETIOLOGY.—If it be admitted that the term "eczema" probably includes a variety of diseases, it is very evident that it is impossible to lay down any laws about



its cause. Many theories, several of them contradictory, have been put forward, their very multiplicity and contradiction showing how evident it is that we are dealing with a collection of different conditions. Many incline to the belief that eczema is parasitic, and the similarity between "eczema" and the traumatic inflammations, of known external origin, suggests the local action of some irritant; and there is no more likely source of such irritation than the growth on the surface of the skin of micro-organisms. Indeed, among much difference of opinion at the recent International Congress of Dermatology, there was quite remarkable unanimity as to the effect of organisms in, at all events, aggravating eczema.

That pathogenic organisms are found as harmless saprophytes on healthy skin is well known, but that does not prevent their assuming a parasitic rôle if circumstances are favourable. Is not the diphtheria bacillus frequently found in the throats of persons apparently in perfect health? And have not Sabouraud's researches, almost everywhere confirmed, shown us that the streptococcus, with its widespread power for evil, may produce such a trivial disease as Impetigo contagiosa?

The organisms most commonly found are the *Staphylococcus aureus* and *albus*, and the coccus first described by Welch as the *S. epidermidis albus*. That the growth of these organisms on an inflamed surface has a very important effect in aggravating the disease is admitted by practically all, but that any of them is to be looked upon definitely as *the* cause of eczema, is a position that only a few enthusiasts occupy.

The *S. epidermidis albus* is apparently the same organism as that described by Unna as the *Morococcus*, and claimed by him as the cause of certain varieties, while Sabouraud believes it to have a very direct connexion with the phenomenon of scaling, so frequent an accompaniment of eczema.

The French school maintains that the primary vesicle of eczema is invariably amicrobic, but admits the importance of organisms as aggravating causes.

There are thus three views in regard to germs: one looking on them as the direct cause of the disease,

another as the exciting cause, while a third regards them as merely aggravating an existing eruption.

Very recently Bockhart has published the results of investigations showing that the toxin of the *Staphylococcus*, applied to the skin, produced papular and vesicular eruptions fulfilling the common conception of Eczema.

The more I read and the more I work at the subject, the more convinced I am of the accuracy of my definition. Eczema is a name which is a cloak for ignorance, and we should endeavour to follow Tilbury Fox and Unna in rescuing from the rubbish-heap groups of cases which follow definite lines.

We must, however, accept the present facts, and class together all these forms of inflammation provisionally as Eczema. We are familiar with a number of predisposing causes which, at all events, have some influence on the development and duration of an attack. Disorders of digestion or assimilation are very generally believed to have an important bearing on both. Many go too far, and even when no evidence of such disorder can be detected, put their patients on a diet, and order an acid, alkaline or diuretic mixture. If any such disorder is present, its cure will undoubtedly hasten the disappearance of the eczema, but the only varieties of the disease where digestive disorders will rarely be enquired for in vain, are those in the neighbourhood of the mouth and anus. Constipation is frequently present, and the proper regulation of the bowels is as desirable in patients with eczema as in any other individual.

Anæmia is undoubtedly a frequent predisposing cause, and it is impossible to overlook the action of the nervous system. The sudden symmetrical outbreak of certain forms, their occurrence at certain periods, *e.g.*, the menopause, and their occasional appearance immediately in relation to some mental or financial emotion, make it impossible to deny to the nervous system an important etiological significance in eczema. Actual changes in the structure of the nerves have been noted by a few favoured observers, but as they have been repeatedly sought for by competent histologists in vain, the claim that all eczema is dependent upon nerve disturbance is clearly absurd.

Eczema often develops without any premonitory symptoms, but there may be some *malaise* and a feeling of local heat before the actual appearance of the eruption. It may occur in those who are manifestly below par, or its subjects may be in the rudest health. It may appear primarily in almost any of the lesional varieties, or it may develop into any of these through some previous one. Thus an eczema may be vesicular at its first appearance, or erythema and papules may precede the vesicles.

DIAGNOSIS.—One is justified in diagnosing as eczema any acute or chronic catarrhal inflammation of the skin of which he does not know the nature or cause. The greater the observer's experience, the more diseases can he differentiate from eczema, and the fewer remain to be so-called.

PROGNOSIS.—Every case of eczema is curable. The time required may be long, and a trial of many remedies necessary, but if the treatment be carried out on sound principles, the ultimate result is always satisfactory.

HISTO-PATHOLOGY.—A knowledge of this is of great value in the comprehension of the different varieties and of their relationship to one another.

In giving a brief *résumé* of Unna's observations, many of which I have confirmed, it is only right to point out that he very nearly goes the length of claiming all eczemas as seborrhœic. I am not, however, prepared to follow him so far. I recognise to the full the very great benefit he has conferred on medicine by his work on Seborrhœa, but I think it is to be regretted that he should have used the word "eczema" in connexion with it.

Seborrhœic Dermatitis is a form of inflammation of the skin, and until Unna showed us its special peculiarities, remained one of the many "inflammations" classed together as eczema. The histological appearances of all these inflammations are very much the same, for much more research will be required before we are in a position to recognise the minor differences between different inflammations of the skin under the microscope.

In the epithelium three main changes are observed, and the lesional variety of the eczema depends on which of these predominates.

The most important is PARAKERATOSIS, or irregular cornification, which is a marked feature of every variety of eczema. It is essentially a parenchymatous œdema, an intracellular œdema, a condition of excessive moisture of the epithelial cells. Instead of going through the regular process of cornification, with the deposition of keratohyalin granules and the conversion into dry anuclear horny cells, the prickles remain moist in their interiors, and though they undergo a sort of mechanical drying process externally, they preserve their nuclei right up to the surface. Being moister, they are naturally more adherent, and are cast off in masses as scales instead of, as normally, singly and insensibly. This factor predominates in the scaly eczemas (Fig. 21).



Fig. 21.—Eczema. The scaly spot, P, shows parakeratosis; at V a vesicle has formed in the prickly layer, whose cells show irregular cornification (parakeratosis) and proliferation (acanthosis). Deep changes are shown by the infiltration around the vessels;  $\times 50$ .

The second change is ACANTHOSIS (*ἀκανθα*—a spur, prickle), and consists in a multiplication of prickly cells. Mitoses are much more numerous and more widespread than normal, and the result is a thickening of the epithelial layer, and including the ridges (so-called interpapillary processes). It is most marked in some papular forms of the disease.

The third characteristic is due to an extension of the same cause which produces the first, *viz.*, an excess of moisture. The fluid is not only in, but between, the cells; they are separated from one another, and if the

fluid be present in sufficient amount, a vesicle is evident clinically. Unna calls this SPONGY METAMORPHOSIS. Some degree of this is always present. The older writers who held by the view that eczema was always a moist disease, have unwittingly proved to be verbally correct, though often there is no clinical evidence of it. The more marked it is, the more evidently does the eczema show the vesicular character.

There are also changes in the deeper tissues, which give character to certain varieties of the disease. Dilation of the vessels is very prominent when the eczema is erythematous, exudation from them when œdematous, and actual proliferation of the connective tissue is found in certain chronic infiltrated conditions.

With all these different phenomena present in varying degree, now one, now another, now a combination of two predominating, it is abundantly evident that the clinical pictures presented are almost kaleidoscopic in their characters.

Before entering on the description of the several varieties of the disease, it will be well to consider those general rules of treatment which are more or less applicable to all its forms.

#### GENERAL TREATMENT OF ECZEMA.

Eczema is so varied in its forms, and in its effects on different parts of the body, that it is beyond possibility to indicate any definite line of treatment for the disease as a whole. Certain broad principles may however, be laid down, though the most steadfast of these are but of a negative character.

First and foremost, the idea must be thoroughly grasped that there is no specific for eczema; there is no medicine which, administered internally or applied externally, can be confidently expected to cure the disease.

The drugs against which the previous sentence is mainly directed are arsenic and zinc ointment, regarding which a far too wide tradition still lingers that they, and practically they only, are *the* treatment for all kinds and varieties of the disease. Of recent years ichthyol has somewhat invaded their preserves, and is largely ordered in the same haphazard method.

Zinc ointment is in most cases at least harmless, and both it and arsenic have their uses in suitable cases; but arsenic is very far from harmless; indeed, it is hardly too much to say that its invariable administration in all forms of eczema is calculated to do more harm than good. The only cases in which it is useful are the exceedingly dry, chronic scaly eczemas; here its prolonged administration may be followed by some improvement. Wherever vesicles are present, or even in their absence where the skin is inflamed and œdematous, it is almost certain to aggravate the condition. Its value in psoriasis, which I regard with Unna as the extreme dry type of seborrhœa, is undeniable, and will be described under the treatment of that disease. Antimonial wine in small and repeated doses is sometimes useful when the skin is greatly inflamed. Salicylate of soda is of some value in acute cases, but the internal treatment of eczema as eczema is of very minor importance; if other complicating disorders are present, they are to be treated *secundum artem*.

External treatment consists in soothing the inflamed cases, stimulating the chronic ones, and where there is reason to suppose that parasitic agents are present, in applying suitable antiseptics. Our treatment is plainly symptomatic; we endeavour to ease itching, to soak up discharge, to supply deficient fat, to diminish hyperæmia, in short to put the skin at rest, so as to allow nature to perform the cure. The details of local treatment will be referred to in connexion with the lesional and regional varieties.

The questions of *diet, drink, water, climate*, etc., all demand consideration.

*Diet* was for a time to all, and still is to many, all-important in the treatment of eczema, and old eczema patients can show pages filled with the most elaborate and careful directions in regard to it.

Common rumour incorrectly attributes to the German school an utter disregard of what goes into the body. Certainly the German diet differs very remarkably from the British, and the *menu* of a dinner even in a skin clinic in Germany is enough to make our dermatological ancestors turn in their graves. Pork, uncooked smoked fish, raw ham, and mixtures of jam and potatoes



are not the sort of diet they ordered to their patients. Yet the patients do well; they recover as quickly as elsewhere, and when they go back to the world do not require special consideration in the domestic circle.

The articles of diet which are bad for eczema are *those which produce any increased flow of blood to the skin*, and a consequent increase of itching, which leads to scratching, and the initiation by this means of a *circulus vitiosus*. What these articles are must be found out by each patient for himself, and eliminated from his dietary. "What is one man's meat is another man's poison." Still one has knowledge of certain things which are harmful in the great majority of cases. Curries, pickles, and all spices should be avoided. Most people are familiar with the conscious heating of the skin which follows the taking of, for example, chutnee.

Porridge is an article of diet regarded by many as undesirable for eczematous patients. Cooked as it too often is in England, it is undoubtedly as bad for eczematous patients as it is unpalatable to all, but if the meal be thoroughly boiled, any little harm which the irritation of the particles of husk may do is more than counterbalanced by its value as a light and nutritious food. Probably, re-cooked foods are undesirable, and where expense is of no consideration it is well to avoid them.

It is superfluous here to present a list of diets for dyspeptics who may also be sufferers from eczema. It is likely enough that their eczema is aggravated, and almost certain that it is prevented from complete cure by the dyspepsia, but that must be treated as a disease of the stomach and not of the skin. The very careful search for some symptoms of indigestion to account for every eczema, is occasionally successful in developing the notion of dyspepsia in a previously healthy patient. In acute inflammations of the skin, if the temperature is raised (though this very rarely happens), the diet should be suited to the febrile condition, and even if there is no fever, when the eruption is acute the diet should be light.

*Drink.*—With regard to drink, the most important question, of course, is that of alcohol, and seeing that alcohol possesses in a very eminent degree that power

of stimulating the cutaneous circulation which has already been referred to, and which in its turn increases the itching, it is evidently desirable that alcohol should be avoided altogether. Many cases are delayed, if not prevented from healing by even the moderate use of alcohol, an observation which can readily be confirmed by cutting it off. All eczemas are not equally injured by it, though in none does it act favourably; the papular and moist red eczemas are most unfavourably influenced; the dry, scaly forms least. With reference to the form of alcohol which should be taken if its use be unavoidable, the selection depends more on the general condition than on the disease of the skin. So far as the skin is concerned it is the alcohol which does harm, not those varying other constituents which make up beer, whisky, claret, sherry, etc.

As regards tea I cannot altogether agree with those who attribute such a power of evil to "the cup that cheers." Too much tea is bad for everyone, especially badly made tea, but well made tea in moderation does no more harm to persons suffering from cutaneous diseases than it does to healthy people. If drunk in quantities and *too hot* it has the same bad effect in flushing the skin as have alcohol and spices. Coffee has the reputation of sometimes increasing itching, in which case it should be avoided, while cocoa, except when too hot, is harmless.

Mineral waters which contain a small amount of some indifferent alkaline salt are probably innocent enough, but the custom of drinking large quantities of strongly alkaline water is not one to be advised. Medicated waters, such as Levico, are hardly to be looked upon as drinks but rather as medicines.

*Water.*—A patient will sometimes relate with an air of pride on exhibiting an eczematous leg that it has "not had water near it" for two months. The limb usually bears all the marks of this, and the phrase is quoted since it illustrates what is still a very common practice. The effect of water is, however, not altogether bad, and a good deal of its evil repute is owing to the fact that many waters contain ingredients which are irritating to any skin, and particularly so to the eczematous one. It is well known in one of our border towns

that the eczema of the hands, which is exceedingly common there, will disappear of itself when rain-water is used instead of the town supply. Still the fact remains that even rain or distilled water, if used too frequently, and if the parts are not sufficiently dried, to some extent aggravate the disease. The water question really depends on its proper use, and the little irritation caused by washing a limb must surely be more than counterbalanced by the removal of the accumulated secretions, excretions, and organisms. After the use of water the denuded epidermis tends to dry and crack, and it is therefore essential that the skin shall have restored to it artificially some of the natural lubricant which has been removed by the water. The fact that water enters into the composition of many of the applications for the skin (lotions, starch poultices, and cold cream) surely shows that it in itself is not so terribly injurious.

Matters are different when there is added to the water its usual accompaniment, namely, soap (see p. 30). The alkali set free on the addition of water even to the best soaps, and the impure fats of cheap ones, irritate the inflamed skin. In the case of eczema, soap should be used only when absolutely necessary. A handful of oatmeal will aid in cleansing the hands, and will at the same time to some extent soften the water. After the use of soap the necessity of supplying to the skin its lost lubricant is, of course, greater.

*Climate.*—It is no very difficult matter to lay down rules with regard to climate in eczema. With one exception, all cases of eczema are aggravated by residence on the north and east coasts, where the particles of brine conveyed by the wind have a constantly irritating effect on the disease. The exception is in cases of what one hardly likes to call strumous eczema, but of eczema occurring in tuberculous subjects, in whom the benefit to the general health is often so great, that the increasing strength of the patient suffices to throw off the eczema in spite of the evil influence of the brine. The other coasts, if their prevailing winds are from the sea, are also injurious, but the milder winds which are supposed to come from the south and west are usually less brine-laden than those from the other directions.

Zones of latitude have little effect on chronic skin diseases. In tropical regions the activity of the sweat glands commonly tends to aggravate the moister forms of the disease. Of the drier forms some seem to be benefited, while others are aggravated, and little of a trustworthy prognostication of the effect of the climate of other countries on any given case is possible.

*Occupation.*—This, of course, has a great bearing on many cases. Most of the "occupation" eczemas, however, come under the category of the traumatic inflammations, for they are begun, continued and aggravated by the continued application of the irritant, although it must be admitted that the occupation is sometimes apparently responsible for an inflammation on the skin, which lasts long after all traces of the irritant must have passed away.

*Exercise.*—Sufficient of this to keep the whole system in good order is, of course, most desirable. Generally speaking, however, it is best that patients with eczema should not take any violent exercise which promotes perspiration, for the heating of the skin tends to aggravate any existing eruption. Cycling should be indulged in only in moderation. If profuse sweating is induced the eczema will certainly be aggravated, but if the sufferer gets into good condition little if any harm will result.

#### LESIONAL VARIETIES.

The lesional varieties are practically the various stages of the older writers, but since every case does not go through all the stages, the new term is a distinct improvement.

The eruption of eczema is usually multiform. The terms used to describe the lesional varieties refer to the prevailing character of the eruption, and do not exclude the possibility that a few papules and vesicles may be present, for instance, in erythematous eczema, or that in the papular form a patch may be infiltrated, weeping or fissured.

**ERYTHEMATOUS ECZEMA.**—The skin is reddened and swollen, where the subcutaneous tissues are loose (*c.g.*, eyelids, scrotum) intensely so, and the patient complains much of a burning sensation. It is most common on

the face, and is not infrequently mistaken for erysipelas. From that disease it should be distinguished: (1,) By its less brawny hardness; (2,) By its less abrupt border; (3,) By the absence of bullæ; and, (4,) By the very slight rise of temperature. In the diagnosis of a doubtful case *all* these differences must be taken into account. Thus a bulla may be accidentally present, but if the infiltration be slight, the border not abrupt, and the temperature normal, its occurrence may be ignored. This variety usually terminates in scaling. If it occur at any of the contact regions, it tends to become moist. As a rule acute, it occasionally assumes a chronic course (see p. 125), and if not completely cured relapses are certain to occur.

TREATMENT.—Greasy applications should, as a rule, be avoided. In slight cases *linimentum ersiccans* or *gelanthum* (page 24) are generally useful, some prefer lotions containing bland powders, *e.g.*—

R	Ac. Boric	℥j
	Calamine	℥iij
	Zinci Oxidi	℥ij
	Glycerini	℥ij
	Aquæ ad	℥vj

or simple dusting powders, such as carbonate of magnesia, starch, or talc. In the chronic form more active remedies are required. They should be very cautiously applied in the first instance, as this variety is often very intolerant of treatment. Tar, at first very weak (℥j-Oj), is often useful.

CEDEMATOUS ECZEMA.—This variety is rarely if ever seen alone. It may complicate the erythematous variety, but the term is most applicable to a form which occurs in patches, particularly on the upper arm and trunk, where a little area of skin about the size of a sixpence, is raised above the surrounding level by the exudation of serum into the corium. Here and there the fluid reaches the surface in little drops, which usually rapidly coagulate to form tiny fibrinous crusts.

Such forms sometimes resemble mild cases of dermatitis herpetiformis. That disease is usually associated with much more itching, and the appearance of repeated crops of patches generally enables the diagnosis to be made. The superficial changes in this form are com-

paratively slight: the main factor is the exudation into the deeper tissues of fluid, only a part of which makes its way to the surface.

TREATMENT.—The avoidance of grease is even more important in this than in the erythematous variety, and dusting powders or lotions similar to those recommended for that form are the best remedies.

PAPULAR ECZEMA.—Two varieties of this must be distinguished. We have first the acute inflammatory papule, which is merely a stage in the development of the vesicle, and the chronic papule, which is due to epithelial growth (acanthosis). The acute form is found most frequently on the flexor surfaces of both arms and the back of the neck, appears suddenly, and is accompanied by much burning and itching. It does not necessarily go on to the development of vesicles, but may be arrested at the papular stage by appropriate treatment. The more chronic form is especially apt to occur on the limbs. The papules may be flattened or acuminate, their colour varies from a pale pink to a deep red, and their distribution is irregular. Often as the result of scratching, their apices are surmounted by a hæmorrhagic crust, and here and there more or less fully formed vesicles may be seen. Itching is always a prominent feature. The formation of the papules is caused by the excessive proliferation of the epithelial cells, and it is probably the most difficult form of eczema to cure.

The disease which it most resembles is Lichen planus. Indeed, this variety of eczema was long known as Lichen simplex. The shape, colour, and distribution of the papules do not correspond with those of lichen (*q.v.*), and the presence here and there of vesicles usually makes the diagnosis a matter of no great difficulty. It may also be confused with Prurigo, but in that disease there is a history of development in infancy, and there is invariably enlargement of the femoral glands.

TREATMENT. As already stated, this is the most difficult form of eczema to treat. Ointments, if employed, should be used with great caution, and applied at first only to small areas. Lassar's paste, with 10 grains of salicylic acid to the ounce, is sometimes useful. The proportion of salicylic acid may be gradually increased.





PLATE XV.



HARRISON & SONS, LONDON

ECZEMA.

Nargol, an organic silver combination, is a valuable alternative to salicylic acid. Tar is another useful remedy, and is best applied in a lotion :—

R	Liq. Carb. Deterg.	
	Liq. Plumbi Subacetat.	aa ʒij
	Zinci Oxidi	
	Glycerini	aa ʒss
	Aquæ ad	ʒvj

Black wash is an old favourite application. If the itching is very severe, zinc gelatin usually gives relief, though more active remedies are required for a cure.

It is important to carefully enquire into the general health and to rectify any disorder, though one cannot hope for much in this form from direct internal treatment. Arsenic in particular should be avoided, as it sometimes converts papular into vesicular eczema.

VESICULAR ECZEMA.—Acute uncomplicated vesicular eczema is not a common disease. It develops rapidly, and its general characters suggest the action of some unknown irritant. At first the skin is swollen and red, then the surface becomes dotted with papules, which are soon surmounted by vesicles. These rupture, and fluid continues to exude from the broken surface. In the really acute forms the exudation soon dries up, and the process is rapidly terminated, but if the irritation is continued, fresh crops come out, the exudation coagulates on the surface and forms fibrinous crusts, the presence of which further aggravates the condition. These crusts soon swarm with organisms, the exudation becomes purulent, and thus are formed the *purulent* and *crusted varieties* of the disease. If the discharge is very profuse, the crusts are washed off by it, and there develops the variety known as *eczema madidans* (Latin root, “madeo,” wet or over-flowing). In some cases, possibly owing to the nature of the irritant, the blood-vessels dilate more than usual, the part looks intensely red, and the term *eczema rubrum* is applied.

Plate XV represents an acute eczema of the arm. The patient was a baker, and when the painting was made the eruption had been present about a week. Papules, vesicles, crusts, and excoriations are all shown. The eruption was probably in the first instance due to some chemical irritant, but although there was no

further exposure, the eruption lasted for over two months.

Many cases of acute vesicular dermatitis are due to the inoculation of staphylococci. The patient may have had for months some localised patch of dermatitis to which he has given little attention. This for some reason becomes inflamed. Vesicles appear in its immediate neighbourhood, and rapidly spread all over the body. The discomfort is considerable, and there is not infrequently in such cases some slight rise of temperature, probably owing to the absorption of septic products. It must be noted that although the acute stage of this variety is vesicular, it often takes its origin in a scaly patch.

TREATMENT.—Acute vesicular eczema is best treated by the application of lotions or powders. It is an advantage that the powders should be mildly antiseptic, and boric acid, or 2 per cent. salicylic acid in talc, are among the most suitable. If the weeping continues, care must be taken that the discharge does not accumulate on the surface, and by its presence give rise to further irritation. As a rule it is desirable to intermit at intervals the use of lotions or powders. An occasional starch poultice (p. 21), or the application of strips of lint soaked in oil, to remove the crusts, is generally requisite. As the discharge lessens, Lassar's paste may be applied, or one composed of equal parts of carbonate of magnesia and vaseline. As pointed out in the section on general treatment, pastes do not dam up the excretions so much as ointments. They should, however, only be applied when the discharge has nearly ceased, in order to promote the healthy cornification of the surface, and to hasten the removal of inflammatory products from the corium. If the crusts are partly purulent, the importance of an antiseptic addition to the application is all the greater. In that stage to which the term "*eczema madidans*" is applied, where drops of fluid are exuding freely all over the surface, astringent lotions are most suitable. Black wash, or a weak solution of the acetate of lead should be applied on lint. The excessive moisture is accompanied by a marked porosity of the epithelium, and in this and in the "*rubrum*" variety the continuous

application of ointments is not contra-indicated, indeed is often beneficial. Hebra's ointment (equal parts of lead plaster and vaseline), may be applied, spread on strips of cloth and changed twice daily.

**PUSTULAR ECZEMA.**—It is of course understood that impetigo contagiosa is no longer referred to under this term. True pustular eczema is, comparatively speaking, rare. The discharge is usually markedly serous, and when pustules are present it indicates the presence of some pyogenic organism. Some cases which are described as pustular eczema, are really ringworm. In all doubtful cases parasites should be sought for.

**TREATMENT** in this form is directed against the most important characteristic, the suppuration, and the continuous application either of weak antiseptic lotions or ointments is desirable. Weak boric lotion or hydrarg. ammon. (grs. v, vaseline ʒj) should be kept constantly applied to the part.

**SCALY ECZEMA.**—It is very rare for eczema to take this form primarily. It is usually the last stage of some other variety, erythematous, papular, or vesicular. It may occur on any part of the body, but is perhaps most common on the legs. In it parakeratosis is the prominent feature, the epithelial cells are unhealthy, and are not going through their proper metamorphosis.

**TREATMENT.**—Ointments are the best application. They should be well rubbed in, so as to soften and remove the scales, and cloths spread with them should be applied to the part. The most suitable drugs are tar and salicylic acid; the proportion should at first be small, and be gradually increased as requisite. A very successful application in cases of this sort on the legs of old people is equal parts of oil of cade and cod-liver oil. As the disease gets better, the proportion of tar may be increased, and by the time the cod-liver oil has disappeared from the prescription, the leg is usually well. In these chronic cases there is invariably a good deal of thickening of the deeper tissues. Treatment must be continued until this has entirely disappeared, otherwise relapse is inevitable.

In very obstinate chronic infiltrated eczema, the heroic method of treatment first recommended by Hebra is often of great value. A pledget of wool is

dipped in a solution of caustic potash (1-4), and the part is scrubbed with this. The potash dissolves the epidermic cells, in a few minutes large drops of exudation cover the surface, and severe pain is experienced. The part is then bathed with warm water for some minutes, after which strips of cloth, spread with equal parts of lead plaster and vaseline, are carefully applied. This method should be very cautiously used until experience in handling it is gained, after which it will be found a most valuable weapon in obstinate cases. For localised obstinate patches it is probably the best method of treatment.

If there is much thickening of the corium, and the eczema occurs on parts much exposed to movement, fissures are prone to occur. This is most frequent on the hands, or about the knees and elbows. The fissure is a mere accident, due to the loss of elasticity in the infiltrated skin, but such cases are sometimes described as *eczema rimosum*.

#### REGIONAL VARIETIES.

Until there is more definite accord as to the nature, etc., of seborrhœa, it is impossible to deal with these varieties of eczema without making allusion to it, but the subject is fully considered, separately.

SCALP.—Eczema on the scalp is almost always seborrhœic, and treatment applicable to that condition is indicated. The complication of ringworm, known as Kerion, is sometimes mistaken for eczema. The areas affected by that disease are regularly or irregularly round, and are usually covered by purulent crusts. On removing these a purulent fluid may be seen exuding, or is easily expressed from the mouths of the follicles, and the hairs may be removed with a minimum of force, while in eczema considerable force is required for their removal. The fungus is usually easily found on microscopic examination, but it is necessary to examine a number of hairs, for healthy as well as diseased hairs are thrown off by the inflammatory process of kerion.

EAR.—The skin behind the ear is a very common seat of an inflammation, usually seborrhœic in origin. The part is red, and covered here and there with crusts.



Very often, owing to accidental movements, fissures develop at the angle between the scalp and the ear. The main obstacle to treatment in this situation is the difficulty of application, or rather of keeping the application in contact with the diseased surface. This is overcome by the use of salve muslin, (zinc ichthyol, or any other which may be suitable). If these are not available, an ointment or paste should be spread upon strips of cloth, and carefully applied to the two inflamed surfaces. Lassar's paste suits most cases in this situation.

The meatus auditorius is often attacked by eczema. Sometimes this is secondary to a catarrh of the middle ear, and is directly set up by the discharge: sometimes it may be found with a sound tympanic membrane. The parts must be kept scrupulously clean, and the meatus washed out repeatedly with weak antiseptic solutions. If due to discharge from the middle ear, treatment must be directed towards that condition. If the disease is confined to the skin, it is necessary to get one's applications to reach the disease. It is difficult to introduce ointments sufficiently deeply, and one of the best means of treating such cases is by a weak solution of resorcin, or salicylic acid (1-4 per cent.) in equal parts of spirit and water. This dropped into the ear at intervals is usually efficacious. Strong solutions of nitrate of silver (R Arg. nit. gr. x, Spt. æth. nitrosi ʒj) may be painted on, and chloride of zinc, gr. x to ʒj, is often useful. It is most important that in such cases the ear shall be thoroughly examined, in order that the presence of polypi, foreign bodies, or other disease, should not be overlooked.

The lobe of the ear is very often the seat of Lupus erythematosus, under which heading the differential diagnosis is dealt with.

FACE.—The face is probably the commonest seat of the erythematous form of eczema. Large areas of skin are attacked, but there is very often a narrow band of unaffected skin between the disease and the hair on the forehead. Most commonly acute (see page 119), it occasionally, especially in elderly people, takes a chronic form, the true skin is thickened, and the natural lines and furrows of the skin become

greatly exaggerated. Soothing lotions, or the linimentum exsiccans (p. 24) are the most suitable remedies for acute cases; chronic ones require more active treatment, for the deep infiltration must be dispelled. Lotions are the safest remedies; greasy applications should only be used with caution, and to a small area. Salicylic acid and tar are the most useful active drugs for the dispersion of the infiltration, and in Duhring's words, the use of the latter should be "cautiously experimental."

**EYELIDS.**—Eczema in this situation usually occurs in strumous children who often at the same time suffer from other diseases of the eye. The pustular form of the disease is the most common, and crusts and scabs anchored by the lashes tend to increase the irritation. The crusts must be removed by the liberal application of ointment. Allan Jamieson recommends as the best basis in such cases :—

R	Lanolini	ʒiij
	Ol. Amygdal. Dulc.	
	Aquæ	āā ʒss

The parts should be bathed with a mild antiseptic lotion (boric acid) several times a day, and in obstinate cases the application of silver nitrate (1 per cent.) or caustic potash (gr. x to ʒj) may be tried.

The irritation is in rare cases set up by the presence of the pediculus pubis, and this possibility should be borne in mind.

The eyebrows may be the seat of a similar eruption, though inflammations in that region are usually seborrhœic. The local treatment in these cases will fall short of success unless means are taken by tonics, good food, fresh air, etc., to improve the general condition of the patient.

**LIPS.**—A dry scaly eczema is not uncommon about the lips. There are very few of the familiar signs of inflammation, there is little redness and no exudation. It will usually be found that in such cases there is some disturbance of digestion, and an acid and bitter tonic often does more good than the most skilful combinations of local treatment. Cold cream or Lassar's paste with 10 grains of salicylic acid will hasten the cure.

*Cheilitis.*—The red part of the lip is sometimes the

seat of an inflammation, exceedingly chronic, very uncomfortable, and unsightly. Sometimes crusts and fissures form, and bleeding is frequent. Another form of Cheilitis (χείλος—the lip), of which I have seen several instances, consists in the development on both upper and lower lips, especially the lower, of small translucent vesicles not unlike the sago grain ones of Cheiropompholyx. When pricked these give exit to a considerable amount of clear fluid. Sometimes a number of superficial pustules are also present. This variety is associated with a good deal of thickening, and often eversion of the lip, which altogether alters the appearance of the patient. Mild remedies are of no value in the treatment of this condition; a cure can only be attained by steady persistence in the use of active measures. I have always found sufficient the bi-weekly applications of pure carbolic acid, precautions being taken to prevent it running on to unaffected parts. Should it prove inefficacious in any case, I should not hesitate to iron the surface with the thermo-cautery at a dull heat under an anæsthetic.

In some cases that part of the upper lip immediately beneath the nostrils is the seat of a moist inflammation, usually accompanied by considerable œdema. Such cases are due to the irritation of a nasal discharge, and no amount of local treatment will be of the slightest benefit unless the nasal catarrh is treated. Simple catarrh is usually soon cured by syringing the nostrils with a weak boric lotion (gr. iv to ℥j). If more serious conditions are present, they must be appropriately treated. The local treatment is of secondary importance. Lassar's or some other paste may be applied. Often the œdema is so great that most good can be got by producing free exudation by the application of liquor potassæ (p. 124). This is painted on, and when a considerable amount of fluid has exuded, the part is bathed with warm water.

THE BEARD REGION of the male is often attacked. The process is the same as on other parts, but descends here and there into a follicle and leads to the production of pustules, which render both diagnosis and treatment more difficult. For the differential diagnosis from *Tinea barbæ*, *Sycosis*, and *Impetigo contagiosa*,

see Sycosis. The removal of the beard is essential. If shaving is objected to, though it is generally not so painful as expected, the hair must be closely clipped with scissors, or a depilatory may be used. The safest of these is a cream made by adding water to equal parts of oxide of zinc, sulphide of barium, and powdered starch. This is applied to the part for about ten minutes and when wiped off brings the hair with it. Those hairs which are surrounded by pustules should be epilated, and salicylic acid (gr. xx) combined either with sulphur (gr. xx) or hydrarg. ammoniat. gr. v-x in vaseline or zinc ointment  $\frac{3}{j}$ , should be well rubbed in two or three times a day.

Medicated soaps, such as sulph. camphor. or boric acid, should be used for shaving, and the lather should be thoroughly rubbed in before the operation. It is essential that an ointment be applied immediately afterwards, otherwise the inflammation may be aggravated.

NECK.—The nape of the neck is often attacked simultaneously with the flexor surfaces of both arms, by a papular form of eczema. The rapid development and the simultaneous appearance in such widely separated situations certainly suggest causes other than local, and disorders of other organs should be sought for. The local treatment is that of papular eczema generally.

Sometimes the neck alone is the seat of a chronic infiltrated patch of eczema, usually of the erythematous and papular type. Such cases are best treated by the application of Lassar's paste, with grs. x-xx of salicylic acid or nargol, weak tar ointments, or tar varnishes (see page 25).

TRUNK.—The more common forms of eczema in this situation are the erythematous and papular. Moist weeping eczemas of the trunk proper are rare. Most of the eruptions in this region are seborrhœic.

The nipple is often attacked by eczema in chlorotic and especially in nursing women. There is a good deal of infiltration, deep exudation and fissuring. A salicylic paste is often useful, and in obstinate cases benefit is often got from the application of a strong solution of nitrate of silver in spt. æth. nitros, 10 per cent. Unless the inflammation is very slight nursing should be abandoned.

One other region requires special description with regard to treatment, *viz.*, the umbilicus. Here, on account of the infolding of the skin, eczema is apt to linger obstinately. Ointments should be well rubbed in, some should be applied on lint, and a pad of wool should be strapped over all to ensure as thorough application of the drug as possible. In very obstinate cases nitrate of silver or caustic potash solution (1-10) may be painted on occasionally.

AXILLÆ.—A dermatitis may be set up by the decomposition of secretions, and presumably may arise from unknown causes. Most inflammations here are due to seborrhœa (*q. v.*). Treatment must be suitable to the form which the eruption takes, but two circumstances must be kept in mind in treating diseases in this situation: first, that the excretion of sweat is very free, and thus applications are very soon washed away; and, second, that the shape of the cavity makes it difficult to keep lint spread with ointment in contact with the diseased surface.

The free excretion renders it desirable to use stronger applications than one would otherwise think of, and points to the use of pastes and powders singly or in combination. The difficulty of application is overcome either by the use of salve muslins, cut in small pieces, or by the following device: after applying strips of cloth spread with ointment to the part, a lady's dress preserver, with a pad of wool between the wings, is fixed in position with a turn of bandage. This keeps the drug in contact with the disease. Boils are very apt to form in inflammations of all sorts here, and the first evidence of suppuration should be the signal for antiseptic bathing and the application of dilute hydrarg. ammoniat. or some other mild antiseptic ointment.

GENITAL REGIONS.—The scrotum, and the skin of the thighs in contact with it, are often the seat of a very painful and distressing form of eczema. The type generally followed is the erythematous, but the anatomical peculiarities of the skin in this situation impart to it special characteristics. The skin is intensely red and swollen, and from the loose nature of the tissues beneath, the exudation extends deeper than usual, and the parts are often enormously enlarged. The

surface is usually moist, and the warmth of the parts leads to decomposition of the excretions, which gives rise to a peculiar sickly odour. The contraction of the smooth muscles of the swollen skin causes a great deal of pain, and patients suffering from this form of eczema are usually very low in health and spirits. The eruption on the adjacent skin of the thighs usually takes the papular form.

**TREATMENT.**—Generally speaking, lotions are the best method of treatment. While soothing ones (zinc calamine) are the safest, the lead and tar lotion is in suitable cases more rapidly successful; it should be applied very much diluted at first. As the discharge diminishes, some grease may be added to the application. Carron oil (*Ol. lini, Aq. calcis, āā pts. æq.*) may be applied on lint, and for the drier stages, salve muslin (zinc ichthyol or Hebra's ointment (*Empl. plumbi, Vaselini, āā pts. æq.*) spread on thin rags may be applied. If the itching is intolerable, nitrate of silver (*gr. xv*) in *Spt. æth. nitrosi 3j* may be painted on; this is very painful for the moment, but forms a skin over the part, and certainly diminishes irritation for a time. Strong tar tinctures, such as Baidon's *Liquor Picis*, often work wonders, but must be used with caution. Crocker finds that most relief is attained by the application of a mustard leaf over the lumbar vertebræ. Bathing with very hot water, or the application of a hot sponge, is sometimes of value. Free purgation does good sometimes, but drugs have little, if any, influence on this form of the disease.

It is very important in this, as indeed in all eczemas, that every trace of the disease should have disappeared before treatment is abandoned.

When eczema attacks the female genitals, the possibility that it is due to diabetes must be first considered, and vaginal and uterine catarrh must be sought for and treated if found. Otherwise, in its form, course, and symptoms, it closely resembles the disease on the scrotum, and the same treatment is generally applicable.

**ANUS.**—When the skin in this region is inflamed, the parts should be carefully examined for hæmorrhoids, fissures, and parasites. When any of these are

present, their cure is usually followed by the disappearance of the inflammation.

Eczema in this situation is usually papular and infiltrated, the skin being sometimes almost leathery in texture. The heat and moisture of the part favour the growth of organisms, which find in the inflamed skin a *locus minoris resistentiæ*. There is usually intense itching, and patients have an anxious, careworn expression often suggestive of some more serious disease.

As already stated, some digestive disturbance is often connected with such cases, and these functions should be enquired into. The bowels should be regulated, but free purgation is to be avoided. Laxatives, not purgatives, should be prescribed. The parts must be kept scrupulously clean by the use of soap and hot water. After washing, it is desirable to lubricate the part, so as to minimise the drying effects of the soap. A paste consisting of Magnes. carb. lev. ℥iij, Vaseline ℥v, is often useful. The intense itching may be moderated by the application of tar or carbolic acid lotions. The strength of the tar may be gradually increased. The liq. picis (page 121) may in some cases be painted on pure. Salicylic acid in a paste (gr. x to xxx) aids in dispelling the infiltration, but if these comparatively mild methods fail, more active ones must be resorted to. Pure carbolic acid may be painted on, caustic potash solution may be applied (page 124), or the patient may be put under chloroform and the diseased surface ironed with the Pacquelin cautery at a dull red heat. This is by far the most efficacious treatment, though patients are naturally desirous of trying milder measures first.

LEGS.—Eczema on the thighs presents no special peculiarities. It is usually papular in form. The term *eczema marginatum* is applied to the eruption of ringworm in the genito-crural regions. It often extends down the thigh (see "Ringworm.") The flexures of the knees are often the seat of a papular, infiltrated, fissured eczema. This usually itches severely, and as no part of the body is more favourably seated for scratching, the disease is usually very persistent. Eczemas here are surprisingly tolerant of treatment, and strong applications may be used. Salicylic acid (5-7 per cent.),



or tar (3j-3j) may be applied in ointments; a good scrubbing with soft soap usually does good, and Hebra's caustic potash treatment may be used with advantage in obstinate cases.

Eczema below the knee owes most of its peculiarities to congestion of the skin. Once started, an inflammation here is delayed in healing by the stasis of the blood, which is, of course, most marked where there is varicosity of the veins. Consequently, eczemas of the leg are usually intensely red and moist (eczema rubrum). Slight injuries, which in the healthy would be unnoticed, may be the starting point of a varicose ulcer with all its complications. In less severe cases, the congestion only interferes with the final stage of cure, and a scaly form of the disease may persist indefinitely.

Rest is of primary importance. While retirement to bed with the feet elevated is the ideal, it is fortunately not the only method of giving rest to the skin, for to working people the advice to go to bed for some weeks is a mere "counsel of perfection." Unna's zinc gelatin is an excellent substitute. It should be made stiff by using equal parts of zinc oxide, gelatin, glycerin, and water. This contracts as it sets, and by its supporting pressure forms a wonderful rest for the skin. Hebra's ointment spread on strips of cloth, and applied after the fashion of the many-tailed bandage, is more useful in the moister stages of the disease, and in the drier ones Pick's salicylic soap plaster is excellent. From 2.5 per cent. of salicylic acid is melted in the soap plaster, which, when still warm, is spread on butter cloth and hung up to dry. Strips of this, over-lapping each other, are then applied to the limb. The first dressing should be renewed in twenty-four hours, but subsequently the intervals may be lengthened up to as much as a week. This method is both efficient and cheap. In the slighter scaly forms strips of lint soaked in equal parts of cod-liver oil and oil of cade are often useful, the tar relieving the itching. Rest and support are the essentials; the simple application of ointment is almost useless.

ARMS.—Eczemas of the arms have no special characters. Papular forms are the commonest. Many are due to some irritant connected with the patient's work, and are therefore really traumatic inflammations. The

apparently neurotic form which appears simultaneously on the flexures of both elbows and on the back of the neck, has already been referred to (page 128). Eczemas of the bend of the elbow exhibit the same tolerance of treatment as those of the flexures of the knee. Scabies often closely simulates eczema, and the hands and wrists must be carefully examined for definite signs of that disease.

**HANDS AND FEET.**—*Cheiopompholyx*, which some still regard as an eczema, has already been dealt with. The skin over the first metacarpal is often the seat of a patch of *seborrhœic eczema*.

The eczema which attacks the palms and soles owes its characters to the anatomical structure of the skin of these situations. The horny layer is especially developed and resistant, consequently the exudation does not readily make its way to the surface, but diffuses itself through the thick layers, which are afterwards separated in large thick flakes. The skin beneath is sodden, and deep fissures extending down into the true skin are of common occurrence. A late scaly syphilide sometimes attacks the palm. Scarring is not so obvious as in most of the tertiary lesions, and the diagnosis is often difficult. As a general rule the specific lesion is unilateral, while unless for some special reason, such as the patient's occupation, eczema is bi-lateral. The specific lesion commences in a central spot and clears up in the centre as it advances, while eczema in this region is usually worst at the centre and fades away gradually at the periphery. Other signs of syphilis will probably be discoverable, and a history may be elicited, though little stress must be placed on a negative one.

The object in treatment is to remove the horny armour which covers the surface, and prevent our remedies from reaching the disease. This is best done by the application of Pick's salicylic plaster (5 per cent.). Strips of this should be closely applied, and changed daily. The parts may be bathed in alkaline solutions, and in very obstinate cases soft soap may be applied as a dressing. When the thickened skin has been removed, salicylic ointments (3-5 per cent.) will generally complete the cure; strong solutions of tar are often

more useful. It is unfortunate that there is no standard preparation which all could agree on. I do not find the *liquor picis carbonis* of the new Pharmacopœia so useful as the *liquor picis* prepared for me by Messrs. Baidon & Son, by a very similar process. Nearly every dermatologist has a favourite solution of tar, and though their differences are not striking, we each hold by our own preparation, being familiar with its action.

In eczemas of the palms and soles, when the horny masses have been removed, or in slighter cases from the first, this tarry preparation is painted on pure once a day, and cases seem to me to improve more rapidly under it than under any other treatment. If, however, after the removal of the scales, vesicles tend to appear on a tender reddened skin, less active methods must be employed. Lassar's paste, with 10 grains to the ounce of salicylic acid or resorcin, should be rubbed in two or three times daily. The salve stick (page 22) is very suitable for such cases, as it can be carried in the pocket and used at any odd moment.

### SEBORRHŒA (AND SEBORRHŒIC DERMATITIS).

(*Sebum* or *sebum*—*suct*, and *ῥέω*—*to flow*.)

There is probably no subject so confusing to the student in certain quarters than this, and perhaps those are happier whose teachers ignore the subject altogether, but in connection with treatment it is impossible to over-estimate the importance of the recognition of the seborrhœic origin of certain dermatites, and the time spent on its study will not be lost. It is especially necessary to be very clear about what one is dealing with, and though it must be admitted that the original meaning of seborrhœa is "flow of sebum," it must also be borne in mind that that term was applied when the scales of seborrhœa capitis were supposed to come from the sebaceous glands.

After all it really is not in these times of any great importance what the original coiner of the name meant by it. In this book I understand by Seborrhœa, the disease familiar to every one, in its mildest forms, as dandruff of the scalp; and I regard the seborrhœa of

Sabouraud, as indeed he does himself, as the initial stage of acne.

The commonest form of the disease is ordinary dandruff, but there are other forms nearly as common in which the amount of oily material is present in such excess as to anchor the scales to the scalp, so that on superficial examination there appears merely a diffuse yellow discolouration, the nature of which is only disclosed by scratching with the finger nail. The scalp is not reddened, any disturbance is limited to slight itching. In the majority of cases the disease does not extend further than this; usually there is gradual thinning of the hair, but as a rule none of the ordinary signs of inflammation are present. Exceptionally, however, on the scalp, and invariably when the disease spreads to other parts of the body, the more familiar signs of inflammation appear. It seems difficult for some to absorb the fact that processes so apparently different are in reality one and the same. Yet if one takes another disease, a familiar one in which the cause is more definitely known than in this, the same phenomena are noticed. In ringworm, the affection of the scalp is a *dry scaly* one, with hardly any of the ordinary signs of inflammation. If the disease is inoculated on some other part of the body, then there appear the redness, the swelling, and the exudation, which convince anyone that we are dealing with an inflammation. Other less common diseases illustrate this tolerance of the scalp to irritation, and it is further illustrated by the fact that the scalp will stand the application of more concentrated remedies than any other part of the skin. As already said, occasionally the more familiar signs of inflammation develop, as they do in ringworm when they lead to the production of kerion. The skin becomes red and swollen, and fluid in varying amounts exudes from its surface. This cakes the scales together, and they form a covering which to some extent arrests the discharge, and this, decomposing, adds to the irritation. When this condition is developed, we have what is known as seborrhœic dermatitis of the scalp, the Eczema capitis of the older authors.

In cases of this severity, however, and in many others which do not reach such a degree, the eruption is not

limited to the scalp. When the scalp is inflamed, the eruption tends to spread *on the forehead and behind the ears*. Even in the absence of evident inflammation of the scalp, these regions are not infrequently affected, and then we see at once the change in the type of the disease. Instead of being a simple dry catarrh of the skin, without any evident hyperæmia, there is in its place a reddened swollen skin, with vesicles or exudation. Perhaps more frequently in cases where the head is not inflamed, the extension is to the face (see "Rosacea"), the sternal region, and the inter-scapular region. On the chest it was long dignified with a special name, *Lichen circinatus*, or *marginatus*, and Duhring, of Philadelphia, was the first to point out its seborrhœic nature, and to describe it as *Seborrhœa corporis*. Here the signs of inflammation are evident enough. Commencing in small red spots, the disease rapidly spreads, in rings or circles which have a very characteristic appearance. The border may be occupied with papules and vesicles, the centre is of a reddish yellow colour, and the surface is greasy. A few moist scales may be present. The disease in the interscapular region, where it is less frequent, presents similar characters. Other favourite situations for the typical seborrhœic dermatitis are the axillæ and groins, where an even greater tendency to rapid, gyrate spread, and the yellow greasy character, may be observed. The disease is by no means limited to these situations. It may extend to any part of the body, and to a great many parts at one and the same time. The characters vary, sometimes the spots resemble those on the sternal region, papules and vesicles being present. Sometimes the eruptions are crusted, and most frequently of all *scaling* is the prominent characteristic. Usually the spots have the same yellow colour which the centre of the patch over the sternum presents, but, as the moisture in them decreases, the drier become the scales, the less is the yellow colour evident, and they take on an aspect *indistinguishable from the spots of psoriasis*. This is specially apt to occur upon the limbs, where the skin is firmer and more resistant to irritation. Occasionally

the spots are so numerous and spread so rapidly as to cover almost the whole surface of the body, and when this is the case the disease sometimes alters its character. The infiltration of the skin disappears, it takes on the character of a general exfoliative dermatitis (*q. v.*), and is *then* known as *Pityriasis rubra seborrhoica*. The spots, though usually but little elevated, are occasionally thickened and prominent, a circumstance which will be referred to under diagnosis.

The disease affects all ages and both sexes. In infancy, seborrhœa is appallingly common, and there is little doubt that if it were then more thoroughly treated, there would be fewer cases in after life. In infants, this, in common with other diseases, tends to moisture and suppuration, and this, possibly, explains the statement that psoriasis is practically never seen in children under seven. Sex has apparently little bearing on the disease, although probably males are more frequently affected than females.

HISTOLOGY.—Microscopic examination shows very much the same changes as those described under eczema (p. 111). Parakeratosis or irregular cornification is always present, and usually a very prominent feature, and epithelial growth and moisture are also found. While a section of one spot from a patient might pass for a vesicle of eczema, another is indistinguishable from typical psoriasis. For a fuller description of the histological phenomena, see "Eczema."

NATURE AND CAUSE.—Seborrhœa I regard as a specific inflammation of the skin, caused in all likelihood by an organism. The identification of this is not easy, for organisms of all sorts abound in the scalp, but the probable cause is the organism which is described by different observers under the different names of the morococcus, the staphylococcus epidermidis albus, and the staphylococcus cutis communis.

In the scalp the organism is associated with others, notably the flask bacillus, but as the disease spreads on to the smooth skin, the relationship of the organisms to the disease becomes more evident. They are found in greatest numbers at spots where there is

most exudation, and are arranged in little clusters resembling a raspberry or mulberry, hence Unna's name morococcus (*μωρον, a mulberry*).

Unna further believes that, in addition to causing inflammation, they stimulate the coil glands to increased activity, and that from this source comes the greasy nature of the disease. Sabouraud believes that the oily matter comes from the sebaceous glands, which are morbidly stimulated by the growth of his bacillus. His views are discussed more fully under acne.

The matter requires of course much further investigation, but although we do not know definitely the cause, we know enough of the nature and course of Seborrhœa to justify us in separating it definitely from eczema.

DIAGNOSIS.—In this connexion the different parts of the body must be considered separately. The fact that it is practically impossible to distinguish it from psoriasis of the scalp supports the view that the conditions there are one and the same. Probably most of those who draw a distinction between the conditions do so after having inspected the rest of the body.

The disease which is most likely to be confused with seborrhœa of the scalp is ringworm, and it should only be after a very careful search that seborrhœa is registered as the diagnosis in children. The effects produced by the irritant, the fungus in one case, the still undetermined organism in the other, are practically the same, *viz.*, a mild degree of inflammation which results in scaling, and it is only the discovery of the cause which enables one definitely to separate the two conditions.

On the face seborrhœa sometimes simulates lupus erythematosus. The scales of seborrhœa are yellow and greasy, those of lupus erythematosus are greyish and dry. When the scale of seborrhœa is removed the mouths of the glands are often seen gaping, as they are in lupus erythematosus, but in that disease the under border of the scale is beset with little projections which have been drawn from depressions in the skin. The commonest seat of seborrhœa, after the forehead, is just above the *alæ nasi*. Lupus erythematosus is most common on the bridge of the nose and on the cheeks.



On the body most stress should be laid on the yellow greasy character of the early spots. The earliest redness is often described as of a salmon tint, but it is the yellow tinge in the colour which is most distinctive.

The number of diseases it may simulate is considerable :—

(1,) PITYRIASIS ROSEA.—The distribution is usually different, and the spots themselves show distinctive characters. Those of pityriasis rosea have a rosy red border not elevated above the surrounding level, and the yellow surface usually has a dry, wrinkled appearance. The history, too, is quite different.

(2,) SYPHILIS.—What we have to consider in this connexion usually is, not which disease is present, but whether both are, for the syphilitic eruption which resembles this is not the early roseola, but a later one, which is really a combination of syphilis and seborrhœa, sometimes termed syphilitic psoriasis.

In a very large proportion of cases the *feeling* of the spot is conclusive. If the finger be passed pretty firmly over one of the spots, the syphilitic one gives to the observer the sensation of something present *beneath* the skin as well as on and in it. In seborrhœa the increase is in the epithelial cells, which are heaped up on the surface. When syphilis is present we have, in addition, a new growth in the true skin, a multiplication of the connective tissue cells. Other signs of syphilis must of course be sought for.

(3,) RINGWORM.—Especially in the genito-crural and axillary regions is this disease imitated by seborrhœa. Both have a gyrate margin, both spread rapidly, and in these situations the centres of both have a yellowish tinge. Ringworm tends to have more vesicles and pustules on its borders, but the diagnosis is sometimes difficult, and a careful examination of the scales for fungus, and of the other parts of the body for other evidences of one or other disease should invariably be made. Ringworm is much the rarer of the two diseases, at all events in this country.

PROGNOSIS.—Seborrhœa on the scalp is so difficult to cure radically that the prognosis is by no means invariably good. While the lesions on the body may be cured easily, there is always the likelihood, so long

as the disease remains on the scalp, that any slight disturbance of general health, any local irritation of the skin, will be followed by a fresh outbreak.

TREATMENT.—No treatment will be successful unless it is thoroughly recognised that the *scalp* is the important factor in connexion with the general disease. Treatment of the scalp is the Alpha and Omega of the treatment of Seborrhœa and seborrhœic dermatitis. The most satisfactory way of removing the diseased products from the scalp is thorough washing with soap. Opinions differ as to the form of soap to be used. Hebra's soap spirit (R Saponis mollis ℥iv, Spt. vini ℥ij) is almost always satisfactory. The head should be thoroughly shampooed with this at intervals, which vary with the extent and stage of the disease. Thus, if irritation is entirely absent, the scalp may be washed daily; if there is obvious inflammation, the intervals should be longer. This alone suffices to cure slight cases, but as a rule some further treatment is required.

The two drugs which have most influence on seborrhœa are sulphur and salicylic acid. They may be applied to the scalp in a very much more concentrated form than to other portions of the body. There is, however, probably not much gained by commencing with too strong an application: 15 grains of each in an ounce of vaseline should be tried, and the proportion increased as experience shows to be necessary. During the prolonged treatment which is usually required, the patient is apt to tire of greasy applications, and under any circumstances they are disliked by ladies. A salicylic lotion (R Ac. salicyl. ℥j-iv, Ol. ricini ℥ij-vj, Ol. ros. geran. ℥x, Spt. vini ad ℥vj) is a pleasant substitute. The amount of castor oil should be increased if the hair is dry, and *vice versâ*. Men can apply this by shaking a bottle with a perforated cork over the scalp, and then using a pair of brushes; ladies should use a spray with a long nozzle, which can be applied so as to ensure the application reaching the scalp. Salicylic fluid Vasogen is a cleanly and satisfactory way of applying the drug to the scalp. It may generally be used as strong as 10 per cent., but it must be borne in mind that so strong an application, while acting beneficially upon the scalp, is by no means so well borne by

the less resistant skin of the hand. Either, gloves must be worn when applying the ointment, or the hands must be washed immediately after making the application. Other drugs which may be used in the dry form of the disease are tannin,  $\frac{1}{2}$  to 1 drachm to the ounce, and pyrogallol  $\mathfrak{zj}$ - $\mathfrak{zj}$ . This is sometimes exceedingly efficacious, and on the scalp it does not cause the same amount of blackening which so interferes with its use on other parts of the body. According to Unna, this is due to the more acid reaction of the excretions, which prevents the reduction process. If the disease has gone further, and the scales have been converted into moist crusts, while the skin beneath is reddened, then treatment must at first be less severe. The scales may be removed by soaking the scalp with oil. If the case is severe, the hair should be cut, and the skin dressed continuously with some preparation containing sulphur and salicylic acid spread on strips of lint. Like Leistikow, I have not found any great objection to the use of pastes on the hairy parts, and a prescription of salicylic acid and sulphur,  $\text{aa grs. x}$ , oxide of zinc  $\mathfrak{zj}$ , vaseline ad  $\mathfrak{zj}$ , is often successful in such cases. As the moisture diminishes, the amount of zinc in the prescription may be diminished also, and the proportions of the other drugs, if necessary, increased.

When the disease has spread to the body, the treatment must be regulated according as the skin reacts with the formation of vesicles, scales, or papules. When it spreads directly from the head to the neck and behind the ears, the eruption is usually moist, and for such a condition the paste which goes in this country by the name of Lassar's, is a very valuable application. If I understand rightly, Lassar's original paste consisted of oxide of zinc, powdered starch, of each  $\mathfrak{zj}$ ; vaseline  $\mathfrak{zss}$ . The name Lassar's paste is, however, usually applied to that preparation with the addition of 10 grains of salicylic acid. Mr. Morris' prescription of 10 grains of sulphur to an ounce of zinc ointment is also often valuable, as are the older remedies of plain zinc ointment and Hebra's diachylon ointment. The essential of success in the treatment of such cases is to keep the part constantly covered.

As the eruption takes a more and more scaly form,

for some reason unknown to me sulphur appears to become less suitable, and in the driest forms, where much more active remedies, such as chrysarobin, etc., do well, sulphur appears to irritate and aggravate the disease. The same is fortunately not true of salicylic acid, which may be used in strength of from 3 to 10 per cent. according as the eruption is widespread or limited, for strong salicylic ointments applied to large surfaces of the body are liable to be absorbed and to give rise to symptoms of salicylic poisoning. The treatment of the very dry forms of the disease, which I regard as indistinguishable from psoriasis, will be found under that disease.

### ROSACEA.

The word acne in association with this disease is daily and deservedly losing its place. It was applied because pustules are very frequently found in rosacea which do have a certain superficial resemblance to those of acne vulgaris. The older books devoted many paragraphs to the distinctions between the two varieties of pustules, but they are easily compressed into the statement that in acne the comedo is the starting point of the disease, and *is the centre of every pustule*, while in rosacea the pustules are *secondary* to the disease, and have *no necessary* relation to the sebaceous glands. Without going the length of denying a neurotic element in certain cases of rosacea, it is my conviction that the vast majority of cases are due to seborrhœa, and that rosacea is really a form of seborrhœic dermatitis. That the nervous system plays a *rôle* is correct enough; that stomach disturbances, etc., aggravate the condition is also true; but the real exciting cause of nearly every case of rosacea is seborrhœa of the scalp, the disease being due to the constant irritation of the skin produced by the deposit on it of the scales and organisms (?) of seborrhœa.

Rosacea is said to be commoner in the female than in the male, and here, probably, the neurotic factor is important in giving to the organisms a favourable soil for their growth. The disease consists in a dilatation of the minute blood-vessels, and in an inflammation of the skin—a dermatitis—which culminates at certain

points in the development of a small pustule. It affects especially the nose, the checks, the chin, and forehead regions, in short, the centre of the face. The hyperæmia keeps up a constant state of hypernutrition of the skin, which leads to the development of increased fibrous tissue, evident in the milder cases as simple thickening, and in the more severe ones as those hypertrophic, pendulous masses which go by the name of rhinophyma or potato nose.

The disease is often erroneously attributed to irregular habits in regard to alcohol, and undoubtedly alcohol, along with a good many other articles of diet, by its tendency to distend the cutaneous blood-vessels, does contribute to its development. But all must be familiar with cases of the disease in teetotal friends, and alcohol is only one of many factors. All the dyspepsias which lead to flushing, increase any latent tendency to the disease, and they have therefore a very intimate relationship with its etiology, treatment and prognosis. But underlying all is seborrhœa, and the recognition of this and its appropriate treatment results in a greatly improved recovery rate in the disease.

The treatment of the disease, therefore, divides itself into two parts, local and general, and as the local is the more important, it will be considered first.

LOCAL TREATMENT.—The seborrhœa of the scalp, which will be found more or less developed in all cases, must be treated by frequent washings with soap spirit, and the application to the scalp of a sulphur and salicylic acid ointment, or of salicylic vasogen. The seborrhœic scalp will stand stronger applications of salicylic acid than any other part of the skin, and a drachm to the ounce may frequently be applied with benefit. Sulphur, in lotion, paste or ointment, should be applied locally. The choice of one or other of these depends on the amount of reaction and the greasiness of the skin. If there is much inflammation a lotion is to be preferred :—

℞ Sulph. Præcip.	
Calaminæ	āā ʒiv
Glycerini	ʒj
Aquæ ad	ʒiv

Sig.—Shake and paint on with a brush.

Sulphur has, in addition to its antiseptic effect, a certain action in constricting the vessels, an action which its relative ichthyol is said to possess in even a greater degree.

R Ichthyol ʒj  
Aqua ʒj

Paint on twice daily

If the amount of irritation is not very great, the method of shelling the skin with resorcin, described under "Acne" (p. 171), may be tried with good effect.

The dilated vessels are sometimes so numerous and so large as to be beyond the reach of drugs, and require mechanical treatment. Electrolysis is a handy method, the needle attached to the negative pole being introduced into the capillaries, and a weak current being allowed to pass until the blood in the vessel is coagulated. Confirmed by histological investigation, Unna uses in preference the fine point of his microbrenner (described under "Lupus"). It is used at a dull heat, and the blood in the vessels is coagulated as with the electric needle. Some slit up the vessels with a fine knife, while others occlude them by multiple scarification. If the mouths of the glands are wide and gaping, they may be stimulated by a touch of the needle of the *microbrenner*. In cases where there is great irritation, a boro-calamine lotion:—

R Calaminæ  
Zinci Oxidi aa ʒss  
Ac. Borici ʒj  
Glycerini ʒij  
Aq. ad ʒvj

may be used for a few days until that subsides, but more active means will be necessary to complete the cure.

GENERAL TREATMENT.—The lines of general treatment in this disease are easily indicated. The patient must keep the system in the best of health, particular attention being paid to regularity of the bowels. In regard to diet he must avoid *everything which experience has shown causes any flushing of the face*, especially all forms of alcohol, tea, spiced meats and condiments. Probably curry is really much more harmful in rosacea than alcohol, although alcohol has the worse name. Violent exercise, unless the patient is in good condition, is

undesirable, and undue exposure to the sun will, by producing hyperæmia of the face, aggravate the disease. If any patient were so foolish as to insist that he would only follow one or other line of treatment, internal *versus* external, there is no doubt at all that the external treatment is the one which would be followed by most improvement.

### ALOPECIA SEBORRHOICA.

Premature baldness, that gradual thinning of the hair which is so very much more common in young males than in the opposite sex, is invariably due to seborrhœa. It is unnecessary to discuss here the exact method by which the hair is lost, and to explain how it is that in certain cases, although a considerable amount of seborrhœa is present, there is no loss of hair. The great predominance of baldness in the male sex is probably to be explained by the more frequent visits to the barber, rather than by the wearing of hard hats, etc., for baldness is at least as common now as it was when these hats were more universally worn. Probably there would be less were it not for the prevalence of the absurd tradition that washing of the scalp is injurious.

PROGNOSIS.—If left alone, the baldness steadily advances until all but a fringe of hair at the sides and back of the scalp is lost. But steady, persevering treatment can arrest it at almost any stage, and generally brings about some improvement.

TREATMENT.—This is practically that already described under seborrhœa. In slight cases daily washing with soap spirit is enough for cure. It is incredible how long some people (cleanly people) are willing to go without washing their scalps. The applications vary with the cases. The salicylic lotion recommended on page 140 is very suitable; salicylic vasogen is perhaps more useful, though less agreeable; and to either a small amount of cantharides may be added if desired. Cantharides has the power of promoting epithelial mitosis, and, therefore, justifies the popular belief in its efficacy. It is, however, valueless if used alone; the seborrhœa which is at the root of the disease must be the main object of our attack.

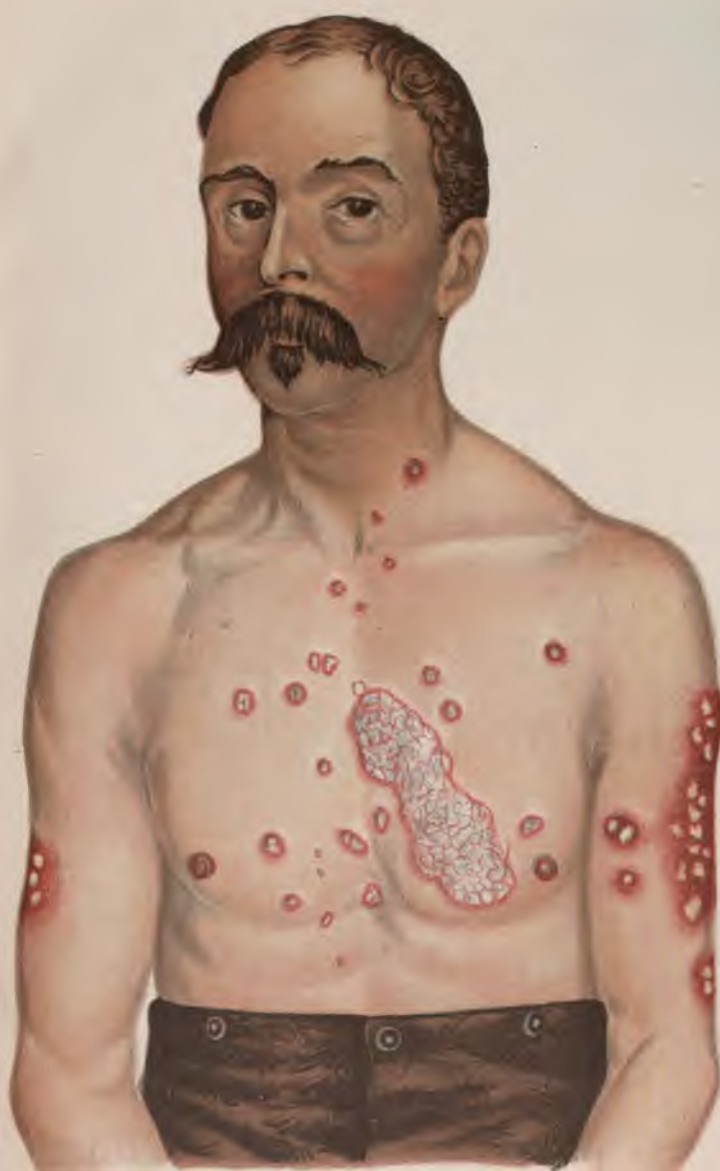


## PSORIASIS.

Although I regard psoriasis as merely the extremely dry form of seborrhœa, this is by no means generally admitted, and it is such an old-established condition, and presents so many marked characteristics, that in spite of what time may show regarding it, it is desirable that it should have a section to itself. The disease requires little description; everyone is familiar with the dry silvery scales on the red circular patches of psoriasis. The varieties of it are infinite, from minute scaly spots (Plate XVI) on the patient's chest, up to large patches on the back as much as a foot in diameter (Plate XVII). While the silvery scales are usually prominent, there occur cases where they are not actually visible. In such cases they can be at once brought into view by lightly scratching the part with the back of the finger nail. This as a test for psoriasis is of much more value than the old one of scraping the patch with the nail and disclosing small bleeding points, for that phenomenon entirely depends on the vigour with which the part is scraped.

The disease affects both sexes and all ages, although it is most common in young adults, and is rare under seven years of age. It is generally described as being distributed on the extensor surfaces, and as being most marked upon the elbows and knees, where it is usually said to commence. It will be found, however, that a great many cases admittedly commence on the scalp, which is almost always affected—another argument in favour of its relationship to seborrhœa. When a section is examined, the appearances presented are identical with those of the drier forms of that disease. There is proliferation of the epithelial cells, and the epithelial ridges are consequently thicker than normal, while the papillæ reach more nearly to the surface than they normally do. This is the explanation of the bleeding points. When the epithelium is removed by the finger nail, the papillæ are reached sooner than they are in healthy skin. The epithelial cells show very marked parakeratosis, the nuclei being preserved right up to the surface.

DIAGNOSIS.—The difference between psoriasis and



PSORIASIS  
(Partly treated).



*PLATE XVII.*



PSORIASIS.



*PLATE XVII.*



PSORIASIS.

means an uncommon disease, but it is passed over with the briefest of notes in systematic lectures, while psoriasis has given to it possibly an undue importance. For a full description, the section on "Lichen" must be referred to, but it may here be noted that the initial papule of lichen is not scaly; indeed it is only in chronic cases, where patches have formed, that any marked scaling develops. Even then it is of a greyish colour, quite different from the silvery scales of psoriasis. A treated psoriasis is much more easily mistaken for a lichen than an untreated lichen for any form of psoriasis.

**PROGNOSIS.**—The prognosis of psoriasis as regards individual attacks is good, but the disease is exceedingly likely to recur. Indeed, if it is treated by itself, and all reference to seborrhœa ignored, it is absolutely certain to return; the importance of the treatment of seborrhœa and its bearing on the recurrence is one of the strongest arguments in favour of the identity of the diseases. Even with regard to life, the prognosis is not absolutely good. No doubt psoriasis by itself never kills, but it may develop into pityriasis rubra, and then the prognosis becomes that of the latter disease.

**INTERNAL TREATMENT.**—Many drugs are believed to have the power of influencing psoriasis. Only four will be here referred to:—

*Arsenic.*—In suitable cases there is no doubt that arsenic has a beneficial effect on this disease. It is its indiscriminate use which has led to its falling partly into disrepute. If the case is recent, if the spots are red and are increasing in number, arsenic is certain to aggravate the disease. If, on the other hand, the disease has lasted for some time, if the spots have ceased to spread, if they are of a pale pink colour, and if there are none showing any tendency to moisture, then arsenic judiciously administered will hasten their disappearance. The actual form of administration is not of very much importance. In this country, Fowler's solution is usually prescribed (see p. 15); Kaposi prefers to administer it in the form of the so-called Asiatic pills, the formula for which is:—

R.	Acidi Arseniosi	0·5
	Piper Nigr.	5·0
	Gumi Arabici	1·0
	Aquæ q.s. ut fiant Pil.	100.



Small doses should be given at first, and these should be increased until either the disease shows signs of remitting, or unpleasant symptoms are developed. In that case the drug should either be stopped or greatly diminished in dose. If it is continued in spite of the warning symptoms, the psoriasis will often apparently benefit, just as leprosy does under arsenic, but when the patient again regains his strength, so does the psoriasis. When the disease is improving, it is enough to continue with the dose which has wrought that improvement. In rare cases arsenic, long continued, produces a greyish pigmentation of the diseased spots.

*Salicylate of Soda.*—This treatment was first introduced by Crocker, and it is of undoubted value in many cases. Fortunately it is especially useful in those cases where arsenic is injurious. If the disease is spreading, if the spots are red, and if there is any tendency to moisture, it should be preferred to arsenic. It is a drug which may be pretty well pushed.

*Iodide of Potash.*—Iodide was first used in the treatment of psoriasis in Denmark. It is applicable to both varieties of the disease, but if it is to be used it must be given a fair chance. The doses requisite are enormously larger than we are in the habit of giving in this country, reaching to as much as a drachm or a drachm and a half three times a day. It is well to bear in mind that iodide of potash is a somewhat expensive drug, and while admitting that it may do good, I do not feel that it is a method greatly to be recommended.

*Thyroid Substance.*—I admit freely that under the administration of thyroid substance psoriasis does disappear, but I cannot admit that the disadvantages and risks attendant on its use are by any means compensated for in a result which can be attained by many other less dangerous remedies. If it must be given, the patient should be under constant medical supervision; and if it is to have a thorough trial, the patient must remain in bed. I have seen enough of the disadvantages of thyroid to give a pretty emphatic opinion that it should not be used as a routine treatment in psoriasis. Small doses of thyroid substance along with small doses of arsenic are, as noted by Ewald, often of much more value than either alone.

EXTERNAL TREATMENT.—The description of this involves a certain amount of repetition, for the treatment of the seborrhœa on the scalp is of primary importance. The head should be thoroughly scrubbed daily with soap spirit, and an ointment of salicylic acid, half a drachm to the ounce, or pyrogallol, a drachm to the ounce, or salicylic valsol 10 per cent., well rubbed in. For the rest of the surface, among many remedies, three stand out prominently as the most efficacious. These three are chrysarobin, tar, and salicylic acid. Chrysarobin is undoubtedly the best remedy if the patient is desirous of a rapid cure and can give himself up to treatment. Baths should be taken twice daily, and while in the bath the patient should scrub with a nail brush all the affected spots, to remove the scales. On coming out he should be well rubbed (not rub himself) with an ointment containing chrysarobin. The ointment should be very liberally applied, enough being left on the skin to make the application practically continuous. Unna's compound chrysarobin ointment is much better than a simple one:—

R	Chrysarobin	parts 5
	Ichthyol	" 3
	Salicylic Acid	" 2
	Vaseline	" 90

This, of course, is restricted to the body, for chrysarobin applied to the scalp without very special precautions sets up intense erythema of the face and severe conjunctivitis. The oldest of clothes must be worn, for they are irretrievably ruined by the drug. In a few days the patient begins to feel uncomfortable, the skin becomes inflamed and irritable, and soon presents a curious negative of its previous condition, all the diseased spots standing out white against the inflamed, previously healthy skin around them. This effect of chrysarobin is shown in Plate XVI, on the arms of the patient, who was treated in this piecemeal fashion to demonstrate that the effects of the drug were purely local, and that its application did not affect the eruption generally, as has sometimes been stated.

At this stage it is a common practice to arrest the treatment for a time until these signs of irritation have

disappeared. If this be done, the patient will have suffered most of his discomfort in vain. The application should be continued until the white areas become reddened like the rest. This involves some endurance, for the discomfort is considerable; but it is essential if the full benefits of this treatment are to be obtained. When the skin has become uniformly red, some mild application, such as zinc ointment or plain vaseline, should be applied, and a careful watch kept for any new spots which may appear. These should be treated by painting with salicylic collodion (3j-℥j) which will generally arrest their further development. Chrysarobin, if used in any less thorough manner, is usually disappointing, and if it cannot be applied in this way some other remedy should be preferred.

*Tar.*—Tar is the safest of all remedies for psoriasis, and may be entrusted to patients of ordinary intelligence without their being under direct medical control. It may be applied in the form of an ointment (5 to 10 per cent.) to any part of the body, for it does not, like chrysarobin, set up facial œdema. An exception should be made with regard to the scalp, where tar ointment is an unnecessarily unpleasant method of treatment. The patient should take frequent baths, and in the bath the scales should be scrubbed off with a nail brush. The patient may be painted with pure tar before entering his bath; this is an efficacious method. It may also be used in the form of soap, the patient lathering himself freely with one or other of the medicated soaps. Equal parts of tar, soft soap, and spirit, make a powerful remedy, and the ichthyol tar soap, made by all medicated soap manufacturers, is convenient. The lather must be well rubbed in and allowed to dry on, and the patient should sleep in a flannel night-dress. On one night a week the soap treatment should be omitted and plain vaseline applied.

*Salicylic Acid* is most appropriate to those cases which are not very wide spread; for if the patient's skin be thin, absorption may take place, and the well known signs of salicylic poisoning, drowsiness, and diminution in the amount of urine are observed. For limited cases it is a valuable remedy, and is probably best

applied dissolved in vaseline in the strength of from 5 to 10 per cent.

*Sulphur*, which is so valuable in the moister conditions of seborrhœic dermatitis, is rarely useful in the dry psoriasis. Indeed, cases which will stand without resentment such powerful remedies as chrysarobin and pure tar, often seem intolerant of even small amounts of sulphur.

In very widespread cases, where large areas of skin are inflamed, infiltrated, and tending to crack, what we may call the specific treatment of psoriasis must be given up, and attention must be directed to soothing the skin by mild remedies. Hebra's ointment or zinc ointment should be spread on freely, and no more active treatment should be thought of until all these additional signs of irritation have disappeared.

### PITYRIASIS.

(*πίτυρον*—*bran*.)

Pityriasis means scaliness, and nothing more. The name indicates no relationship between the diseases so entitled, and the use of the simple term is merely a pedantic method of concealing ignorance.

### PITYRIASIS ROSEA.

(PLATE XVIII.)

This, though a comparatively rare disease, occurs more frequently than is generally supposed, for cases are very often incorrectly diagnosed. A typical case runs a very clear and definite course. Without any previous symptoms, there appears on the trunk, somewhere in the region of the waist, as the "herald" of the disease, a reddish yellow spot which expands into a patch, circular or oval in form, very little elevated, with a rosy red border and a dull yellow centre. The shade of yellow which forms the centre is sometimes described as fawn coloured; frequently it very closely resembles chamois leather. Often enough this patch is entirely overlooked, and the first the patient knows of the disease is about a week later, when the whole trunk becomes covered with a profuse eruption of





PITYRIASIS ROSEA.

spots similar in nature though smaller in size than the original one. All of them do not expand into circles; many remain as spots, and to this variety of the disease the name Pityriasis rosea *maculata* (macula, a spot) is applied. When they do expand into circles the adjective *circinata* is employed instead. Plate XVIII shows all the stages of the disease—the large “herald” patch, and smaller circinate and macular lesions. Too much stress must not be placed on the identification of this “herald” patch; in the majority of cases it is not to be discovered.

The eruption is usually limited to the trunk. A few spots may be found about the shoulders, and a few on the thighs, but it is rare on the face and on the distal ends of the limbs. Exceptionally, the eruption is limited to the limbs. In spite of the name, there is not often much scaliness. If a circular patch is scratched with the finger nail, a certain amount of fine scaling may be produced, but it is rarely evident without this. After a duration of from five to eight weeks the eruption gradually disappears.

DIAGNOSIS.—The diseases with which this may be confounded are syphilis, seborrhœa, and ringworm. A confusion with the first is the most frequent error, and as the disease disappears spontaneously in about six weeks, this is put down to the effect of the mercury which has probably been administered. It is needless to say that none of the other signs of that disease are present. There are no enlarged glands, no affection of the throat, and, further, the eruption itself is flatter and differs in colour from the eruption of syphilis.

From ringworm, with which it is still confused by the Vienna school, it may be distinguished by the fact that there are no vesicles on the advancing border, by the sudden appearance of the eruption, and, negatively, by the absence of any fungus.

From seborrhœa it differs, firstly, in its distribution. While that disease is common enough on the trunk, it is also found on the scalp, face and limbs. Further, the *border* of the spots in seborrhœa is *more raised*, and there is a much *greater tendency to moisture and to scaling* than there is in this disease.

The cause of the disease is unknown. No organisms



have been found which could be definitely associated with it, and there is no similarity in the patients whom it attacks, such as employment, age, sex, or the like. When a section is examined the possibilities of scaling are evident. Thus, in the drawing (Fig. 22) the superficial layers of the horny layer have been partly detached in preparation, and are seen separated from the skin, although there was no evidence of this when the spot was removed from the patient. There are signs of slight proliferation of the epithelium, while the corium is rather more cellular than normal.



Fig. 22.—Pityriasis rosea. A little increase of the cellular layer of the epidermis, no granular layer. The increased horny layer which was closely adherent was detached in preparation. A few leucocytes in the corium;  $\times 50$ .

The disease gives rise to hardly any discomfort; a very mild degree of itching is experienced by some patients, and this frequent absence of itching no doubt contributes to its confusion with syphilis.

PROGNOSIS.—This is always good: even if no treatment is applied the disease gets well, and there is no tendency to recurrence.

TREATMENT.—It is a common view that the treatment of this disease is in general not very satisfactory. That view I have long taught and until recently shared. I have, however, learned from Dr. Allan Jamieson that it is erroneous, and that pityriasis rosea is more rapidly amenable to treatment than the majority of skin diseases. The patient should be soaked daily for half an hour in a bath to which two or three teaspoonfuls of Condyl's fluid have been added, after which salicylic vaseline (3.5 per cent.) is freely applied to the skin. In twenty-four hours there are usually marked signs of improvement, and in a week or ten days most cases are well.

PITYRIASIS RUBRA.  
(*Dermatitis exfoliativa.*)

"Red scaliness" is a term which is applicable to a good many conditions, and the definition of pityriasis rubra varies in its extent according to the observer. Some only include under this heading the cases which correspond to the type described by Hebra, while others are wider in their definition, and include cases which succeed wide-spread attacks of other skin diseases, and even cases which most regard as clearly eczema. The discussion of the fine distinctions would be out of place in such a work as the present, and while admitting that there are likely enough distinctions between the varieties, I propose to discuss them all together.

It may be taken, then, that the disease may arise either spontaneously or may succeed one of several skin diseases. The commonest is psoriasis, but it may follow eczema, lichen, dermatitis herpetiformis, or erythema multiforme, and apparently in some mysterious way develop out of these. The form of Psoriasis which it most frequently follows is the moister variety, the more "eczematous" one, and such cases are sometimes known as Pityriasis rubra seborrhoica. They are often directly traceable to the too free and too long continued use of chrysarobin. Even weak ointments of chrysarobin should never be continued for more than a month, and not so long unless under direct supervision. Usually the result is the transformation of the dry into a moist, weeping eruption, but in exceptional cases "pityriasis rubra seborrhoica" develops. The disease is characterised, as its name indicates, by intense redness and abundant desquamation, but perhaps its most prominent characteristic is a negative one, namely, the absence of infiltration and thickening of the skin. Although the patient looks like a boiled lobster, although shovelfuls of scales may be removed from his bed in the morning, the skin *feels* but little affected. Commencing, when it does commence independently, as a number of small spots, the disease rapidly spreads until nearly the whole surface of the body is affected. In connexion with its development from any of the diseases mentioned, while frequently the history points to a misuse of

chrysarobin or some other irritating drug, cases occur where in the course of a night the disease undergoes a complete transformation, and the patient who at one visit was suffering from psoriasis, is at the next found to be the subject of a typical pityriasis rubra. The diagnosis should not be difficult, but it is so easy in the presence of redness and scaling to ignore the negative character of absence of infiltration, and to call a case exfoliative dermatitis, that stress must be laid upon this point. A scaling eczema with exudation is quite another disease. The fluid which is occasionally present in cases of pityriasis rubra is not exudation, but probably merely sweat; it does not stiffen linen. Further, though it may be very widespread, eczema is rarely universal, while this disease, after it is fully developed, usually is.

The *cause* is unknown. Its sudden appearance in the course of another malady has led some to place its origin in the central nervous system. But two fatal cases of Crocker's, in which the nervous system was carefully examined by Dr. Mott, showed no change whatever. Others regard it as of parasitic origin, but though organisms may be found in the scales, it has not been possible to relate them definitely to the disease. A number of cases have first appeared after exposure to cold, so that this is evidently a factor in their development, though the time has gone by when cold was looked upon as the cause of a disease. Crocker holds that there is a relation between rheumatism and gout and this disease, these having been present in a number of his cases; while Jadassohn has found tuberculosis in a large proportion of his. The fact that these are not invariably present, shows that they have at most only a secondary influence. Shock and a number of those other causes about which one can prove nothing, have been instanced as influencing an attack, but candidly we know nothing of the real cause.

PROGNOSIS.—This is bad, especially in those cases which arise spontaneously. Many cases die, some directly from exhaustion, others from some intercurrent disease to which weakness has predisposed; and those who recover are very liable to have a second, third, and final attack of their malady. The chronic hyperæmic

condition of the skin renders the patient very susceptible to cold, and pneumonia is frequently the cause of the fatal issue.

**TREATMENT.**—The first indication for treatment is derived from the history of the development of the disease. Having seen how cases develop from over-treated psoriasis, it is very clear that only mild remedies should be used. During the acute stage, the patient should remain in bed in a warm room, and every precaution should be taken against cold. The applications should be of the mildest. Hebra's ointment, weak tar lotions, or weak carbolised oil may be tried; according to Morris mercurial applications aggravate the disease, and should never be employed. Internally, probably the most useful medicine is antimony, small doses of the wine being given at frequent intervals. Quinine and thyroidin are often useful. Arsenic should never be given until the case has become distinctly chronic, and even then only if it show some signs of improvement. If there is any active inflammation, it is almost sure to be aggravated by arsenic. The diet should be light, but nutritious, and cod-liver oil is generally useful. Alcohol and any foods which may cause flushing of the skin should be absolutely forbidden. Baths should be tempered by the addition of bran or starch (page 21). When the acute stage is past, and the patient insists on going about, special precautions against cold must be constantly taken.

### PITYRIASIS RUBRA PILARIS.

*Red scaliness around a hair.* The mere mention of this disease in dermatological circles always arouses the dispute as to whether the disease is or is not identical with Hebra's *Lichen ruber acuminatus*. The general opinion seems to be that the two diseases are the same, and though there are still some who maintain the distinction, it must be admitted that it is an exceedingly difficult point—without the assistance of Mr. Stead and his spooks—to determine what a person who has been several years dead, recognised under any particular name. The disease is rare, and consequently the opportunity of settling the question does not often arise.

Only one case has come under my observation in this country, and the opportunity of observing it I owe to my friend Dr. Morton, of Glasgow. In this patient, a boy aged about twenty-one, the disease was preceded by an illness so severe as to lead to his being treated for some time as a case of typhoid fever. The eruption developed later, and when I saw him he showed two of the forms characteristic of the disease. On the arms there were numerous follicular papules apparently surrounding the hair follicles. They were about the size of a millet seed, and were of a yellowish brown colour. They were not markedly acuminate, but rather flattened on their apices, and their most prominent characteristic was their colour. On the chest the spots had coalesced to form what is described as erythrodermia, or the red-skinned stage, and large tracts were affected, though in most places the origin from the union of papules could easily enough be made out. There is one aid to the diagnosis of this rare disease which is almost invariably present, *viz.*, the appearance, on the backs of the first and second phalanges of the fingers, of blackened spots around the hair follicles, which give the skin a rough, file-like, feeling. This description does not accord altogether with that given in some books, where the acuminate character is emphasized. There the papules are described as small, red, dry, and harsh, and each as surmounted by a single atrophied hair. The feeling and appearance of the skin is compared to that of a newly-plucked fowl. On the scalp and face the papular character is not so marked, and in these situations the disease closely resembles ordinary seborrhœa. Mr. Morris states that the general health is never affected, but in Dr. Morton's case, which was also seen by Prof. M'Call Anderson and Dr. Jamieson, the patient was seriously ill. The disease may last for years. Some cases improve under arsenic, while others are apparently aggravated. General tonic treatment is usually indicated. Pilocarpine or jaborandi may be given to promote sweating, and weak preparations of oil of cade or pyrogallol may be applied locally. If these produce irritation they must be stopped, and soothing remedies applied.



*PLATE XIX.*



ICHTHYOSIS.

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*PLATE XX.*



ICHTHYOSIS.

# ICHTHYOSIS.

(*ichthys*—*a fish*.)

Ichthyosis, or the fish-skin disease, though fortunately rarely seen in its severer forms, is in the milder ones by no means uncommon. The numerous named varieties are better considered as simply different manifestations of the one complaint. To this, however, one exception must be made, for the disease known as Ichthyosis hystrix, in which the morbid condition is found, *e.g.*, on one limb, or apparently following the course of a nerve round the body, is really a variety of nævus. The different adjectives added to the name—*I. serpentina*, *sauroderma* (crocodile), etc.—are simply descriptive of an apparent resemblance to the lower animals.

The mildest variety goes by the name of Xeroderma (dry skin). In this form the patient is only conscious, in the colder months, of a dryness of the skin, and a slight tendency to scaliness in certain situations—the knees, elbows, and axillary borders. The secretion of sweat is greatly diminished; many patients declaring that they do not sweat at all. As the disease spreads it tends to affect the extensor surfaces, and these are occasionally the seats of a moist eruption, which it is, however, an exaggeration of terms to call eczema. From this mild variety there are all degrees up to the severest cases, where the patient is covered almost entirely by large horny masses, and the skin resembles rather that of a reptile than of a human being. Plate XIX illustrates the more commonly occurring form of the disease. On the back and the arms the partitioning of the skin into little lozenge-shaped areas, like the scales of a fish, is fairly well shown, while as we approach the axillæ the disease is more marked, and the little blackened horny masses are prominent. In the severer forms these increase in size and length, and may be as much as a quarter of an inch in diameter and three-quarters of an inch long. Through the kindness of Dr. Byrom Bramwell, I am enabled to give an illustration of the legs and arms of the worst case of this disease I have ever seen (Plate XX). The case is fully described and illustrated in Dr. Bramwell's Atlas of Clinical Medicine. It will be noted that the palm is unaffected.

Even in the severest cases certain regions are usually spared. The palms and soles are very rarely affected. The face never shows such marked horny excrescences as does the rest of the body—although in the mildest cases there is often a good deal of moist catarrh on the forehead—and the flexures at the elbows and knees are long spared. In the milder varieties there is little beyond a mere roughness, but as the scales accumulate they become black, not from dirt but from excessive cornification, in which blackening always tends to occur. The same phenomenon is seen in the blackening of the head of the comedo.

The disease is usually described as congenital, but it rarely appears before the end of the first, and often well on in the second year of life. Cases have been described where it has developed in adults, but these are very exceptional. Confusion has resulted from its being erroneously connected with what is known as congenital ichthyosis, the disease figured in many books as the "Harlequin" fœtus. Although both diseases show excessive cornification as a prominent feature, there are certain differences so marked as to make it unlikely that they are the same. For example, in Hyperkeratosis congenitalis, as it should be called, the palms and soles are invariably affected, while in ichthyosis they are the last regions attacked. Heredity is, however, undoubtedly a factor in ichthyosis, and the disease shares with Xeroderma pigmentosum the peculiarity that it shows itself usually only in one sex in a family. There is no evident preference for one over the other; but in one family most of the boys may be affected, and in another all the girls, the opposite sex remaining perfectly free.

The cause is unknown. Unna places it among the infective inflammations, and it is interesting to know in this connexion that in Styria it is said to be as common as is psoriasis in this country. No organism, however, has been found. On examining a section of the skin, the changes are so striking that one has no difficulty in recognising it at a glance. The epidermis is thin, the horny layer is markedly thickened, and the papillæ have a peculiar Alpine arrangement, reminding one of those pictures of the relative heights of the

mountains of the world which appear at the bottom of maps (Fig. 23). Although the sweat and sebaceous secretions are diminished, both sets of glands are found on examining the skin. The subcutaneous fat is

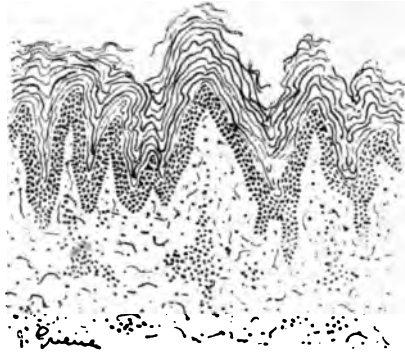


Fig. 23.—Ichthyosis. Horny layer increased, rete thin, "Alpine" papillæ, some cellularity of the corium.  $\times 50$ .

notably diminished. The amount of irritation in the skin, as shown by the presence of leucocytes and proliferating connective tissue cells, depends on the stage of the disease. If the piece examined has been removed during a quiescent period, they are practically no more than normal, while if removed during an attack of "eczema," they are of course numerous.

DIAGNOSIS.—This, in an advanced stage, is very easy. No one could possibly mistake a well-marked case. Those difficult to diagnose are the slight ones, especially where, perhaps, a moist catarrh has directed one's attention away from a disease so associated with dryness as ichthyosis. There are, however, certain peculiarities about this moist catarrh which should arouse the suspicion that one is not dealing with an ordinary case of eczema. The distribution is almost always on the extensor surfaces, and if the diagnosis is not made, it will generally be found that treatment is by no means so successful as it would have been had the case been eczema. In every patient with a moist catarrh on the extensor surfaces, especially if there is a history of its recurrence winter after winter, the regions where ichthyosis is generally most developed should be examined.

The knees and elbows, especially the former, are in so many people the seat of a certain amount of scaling, that most information is to be derived from the examination of the axillary borders. Either anteriorly or posteriorly there will be found here some evidence of the disease. Prurigo, which also attacks the extensor surfaces, which is occasionally moist, and which is also a disease dating far back in infancy, is so rare in this country that it need be only exceptionally considered. The nutmeg-grater character of the skin, the enlargement of the glands, and the greater itching, combined of course with the absence of any signs of ichthyosis, should easily enable one to diagnose prurigo. From psoriasis, which also affects the elbows and knees, there should be no difficulty in diagnosis. Sometimes, it is true, the scales of psoriasis do take on a greenish colour, but they are heaped up in masses, and there is never the areated, mosaic arrangement which is so constantly seen in ichthyosis.

**PROGNOSIS.**—It is difficult to lay down the prognosis of any given case. The danger to life is practically nil; the prospects of improvement are excellent; but the hope of complete recovery is by no means good.

**TREATMENT.**—The main object of treatment is to supply to the skin the fat in which it is so markedly deficient, and if a sufferer will take a daily bath, and grease himself regularly with lanolin, vaseline, or some similar preparation, he can keep himself in a condition of comparative comfort. While this inunction of fat is followed by great amelioration of the symptoms, it cannot, of course, be expected to do much to cure the disease, especially if it be regarded as an infective inflammation. Therefore various drugs of an antiseptic nature should be incorporated with the ointment base. Of these drugs the most generally used are sulphur, ichthyol, *p*-naphthol, resorcin, and salicylic acid. One or other of these may be combined in the proportion of 5 to 10 per cent. with the ointment, and one usually has, unfortunately, ample opportunity to compare the relative value of the different preparations. Internally, pilocarpine is of undoubted value. It may be injected subcutaneously, or the tincture or syrup of jaborandi may be given by the mouth. Small doses of nitro-







ACNE (Indurata).

glycerine frequently repeated have proved useful in some cases. Arsenic and cod-liver oil are also recommended, and the latter of these, *by increasing the subcutaneous fat*, is bound to be useful in most cases.

Thyroidin exercises an undoubted influence on ichthyosis. While it is not a remedy to be recommended in a disease such as psoriasis, where one has numberless remedies of well-approved value; in this complaint, which is so chronic and so obstinate in its response to treatment, one is justified in using, with caution, remedies which do carry with them a certain amount of danger. The patient's susceptibility should be carefully tested, and the dose always kept well below that which would induce toxic symptoms. *No patient should ever continue with the use of thyroid tablets except under medical supervision.* The amount to be taken depends entirely on the individual. With some, 1 five-grain tablet a day is sufficient, while others can take without harm 5, 7, 10, or more. To those to whom their place of residence is a mere matter of choice, some warm, moist climate should be recommended, for residence in a cold, exposed, windy district is certain to lead to constant attacks of moist catarrh, with its accompanying discomforts.

Ichthyosis hystrix, which is an entirely different condition (*see* Nævus), must be treated by the removal of the horny masses, and the destruction of the base from which they grow. This may sometimes be accomplished successfully by the use of salicylic plaster, but in obstinate cases it may be necessary to destroy the line of disease with the thermo-cautery.

INFLAMMATIONS OF THE DEEP EPIDERMIS.  
(GLANDS AND FOLLICLES).

ACNE.

(Plate XXI.)

(*ἀκνὴ, quasi ἀκμή—a point, or the bloom of anything.*)

The term was probably applied to the disease by reason of its association with adolescence, since it was looked upon as the bloom of youth. The essence of

the disease is the plugging of the mouths of the sebaceous follicles by a comedo,\* familiarly known as "*a black-head*." The comedo itself is a small oat-shaped body, which acts like a cork; the long coil of yellow material which can be expressed from the gland is retained secretion, and not a part of the comedo proper. While many of the comedones remain as such, others set up irritation, and the distended gland becomes converted into a pustule, at the apex of which the comedo is still evident. In some cases the suppuration is deep, and considerable abscesses are formed in the depth of the skin, often from the union of several adjacent follicles. In others again there is a large amount of connective tissue thickening, and to this form the name *Acne indurata* is applied.

The disease is practically confined to the period of adolescence, being most common between the ages of sixteen and six-and-twenty. After thirty it is rare, so rare that the appearance of a disease simulating acne after that age should always lead to careful inquiry as to whether the patient has not been taking some drug, especially iodides or bromides.

It affects both sexes equally, though perhaps the severest cases are seen in the male. The parts of the body affected are the face, the chest, and the back. Exceptionally it spreads further down the trunk and to the limbs, but certainly 95 per cent. of the cases are confined to the regions mentioned. The skin is always greasy, anæmic, and flabby from want of tone in the cutaneous muscles.

ETIOLOGY.—The older authors gave several ingenious explanations of the cause of this disease, the commonest being, that it was associated with the increased activity of the skin and the development of hair, during adolescence. In reply to the argument that the disease is as common in girls as in boys, Pye-Smith explains that "though women have no beards their fathers had, and secondary sexual characters are more or less transmissible to both sexes."

Acne has in the last year or two been the subject of

\* Latin *comedo*, to eat up. The comedo was supposed to be a species of worm.

much careful investigation, and without denying possible predisposing and contributory causes, there is little doubt that the actual cause of the disease is the organism now known as the *Bacillus acnes*. This was first described by Unna, but also independently by Gilchrist and Sabouraud. The views of the last named have attained the greatest publicity, and although his conclusions are not by any means universally accepted, his observations are of extreme interest. It must be borne in mind that he regards this one bacillus as the cause of what we have been accustomed to regard as three distinct diseases, seborrhœa, acne, and alopecia areata.

If any abnormally greasy skin be carefully examined with a lens, it will be found that the mouths of the sebaceous glands are occupied by little greyish-yellow masses, like little corks. To these Sabouraud has given the name of "Cocoons." When examined under the microscope they are found to consist of some epithelial cells, a large amount of grease, and millions of short, thin bacilli. This is the first attempt at the development of a comedo; the final stage is only reached in a very small percentage of the glands. According to Sabouraud this bacillus stimulates the secretion of the sebaceous glands, and alters it so that it becomes a fluid instead of a solid fat. He believes further that the organisms produce a toxin which poisons the hair, and thus lead in ordinary cases of seborrhœa to baldness, and in alopecia areata, which he regards as an acute circumscribed form of seborrhœa, to a complete loss of hair. With the further development of his views I do not agree, but the development of a comedo from one among twenty or thirty cocoons which remain as such, is a fact which anyone can observe.

Gilchrist's work was on somewhat different lines, for he examined the later stages of acne, the pustules. In them he found, among the pus, masses of these bacilli, which with some difficulty he succeeded in cultivating. Experimental inoculation showed them to be possessed of marked pathogenic properties, but he was unable to reproduce the actual disease. As he says, contributory causes are doubtless necessary. To him the organism owes its name. The descriptions

given by these two authors of their organisms do not absolutely tally, but having had special opportunities for comparing them, I think there is no doubt they are the same.

Both Unna and Gilchrist have demonstrated that the softening and suppuration which it was the custom to ascribe to accidental inoculation with pyococci, are, as a matter of fact, attributable to the bacillus.

There are many clinical facts in favour of the infective nature of acne. Although in such a common disease evidence of direct infection is of course very difficult to obtain, cases of auto-infection are not infrequently seen. The treatment by massage, if carried out in an unskilled manner, is exceedingly apt to spread the disease, the organisms being probably massaged out of one follicle into another. At all events, the germ theory requires at least a less roundabout explanation than does the developmental one.



Fig. 24. Section of an early lesion. The orifice of the gland is plugged by closely-packed layers of horny matter, the comedo. All sebaceous structure is gone and the gland is lined by horny layer. Some softer material in the centre has dropped out in preparation.  $\times 50$ .

When a spot is examined microscopically we find the mouth of the sebaceous gland plugged by the comedo. This little oat-shaped mass is composed of concentrically arranged horny layers, more closely packed at the upper part, and showing there the black colour which characterises the extreme degree of cornification. The same is seen in advanced cases of ichthyosis and in cutaneous horns, and it is not, as has often been stated, due to dirt. Beneath, the gland is filled with broken-down sebaceous material, all trace of glandular epithelium is usually lost, and the cavity is lined with a horny layer resembling that of the skin (Fig. 24).

The skin in general has a thicker horny layer than normal, is in fact in a condition of hyperkeratosis.

When the disease has reached the pustular stage the effects are more widespread, the wall has usually broken down at some part, and the abscess cavity involves the surrounding tissues to a greater or less extent.

If left to itself the disease tends to progress steadily, and the comedones slowly increase in number. The amount of suppurative change depends to a considerable extent upon the health of the individual. Often enough, however, persons in the most vigorous health have their faces disfigured by a profuse eruption of pustules.

DIAGNOSIS.—The presence of pustules on the face is not enough to found a diagnosis upon. The essential element of the disease is the comedo ; unless that is in evidence the disease is not acne.

PROGNOSIS.—Almost all cases are curable by time, and if a patient is willing to wait until he enters the thirties, there is no occasion to do anything. Unfortunately, though, "*tempus varos curat*," the scars left are often almost as disfiguring as the disease, and an acne scar is probably in a great many cases the starting point of keloid.

Comparatively few persons are willing to leave their cases to nature, and in dealing with the prognosis we have to consider a number of factors. One of the most important is the general condition of the patient ; if in bad hygienic condition and insufficiently fed, his acne is likely to continue. Various abuses, too, if indulged in, interfere with improvement, but the great element in prognosis is the diligence with which the patient carries out treatment. The main factors therefore in the cure of a case are time, health, and perseverance.

TREATMENT.—In the treatment of acne it must be kept in mind that we have invariably hyperkeratosis, anæmia, flaccidity of the cutaneous muscles, and an excessive amount of oily secretion, all probably directly or indirectly due to the presence of the bacillus. With regard to general treatment it is evident enough that they are all conditions which can be improved by

general tonics. The patient should take plenty of exercise in the open air, plain food—all greasy articles of diet being avoided—and, in short, get into as good condition as possible. In girls constipation and anæmia are very frequently present, and these must be treated.

There is no drug which has any specific influence on acne, with one exception. When there is much induration around the individual lesions *sulphide of calcium* given in pills,  $\frac{1}{4}$  of a grain three or four times a day, has in some cases an influence in promoting either absorption or a more rapid softening of the morbid products.

The discovery of an organism as a probable cause of the disease has, of course, stimulated the belief in the efficacy of local treatment. Again bearing in mind the factors of hyperkeratosis, excessive secretion, anæmia, and flaccidity of muscles, we find that there is one treatment which has an influence on all four. That consists in the vigorous application of soap, the alkali of which removes the excessive oily secretion and the thickened horny layer, while the friction with which it is applied promotes hyperæmia and stimulates the flaccid muscles.

Soap alone, combined with friction, will cure a great many cases, but it is usual to associate with it some drug which will assist in its action. Long before organisms were even thought of, SULPHUR had established itself as of value in the treatment of acne, and sulphur combined with some form of soap is probably the most efficacious treatment. With regard to the form of soap with which it should be combined, opinions differ very much. Some consider that the alkali in soap is responsible for many disagreeable effects, and recommend that an over-fatty soap should be employed. Others again use the soap liniment of the Pharmacopœia, while others use Hebra's soap spirit, a strongly alkaline preparation. Seeing we have to deal with a skin rich in fat, and that it is the alkali of the soap which removes that, over-fatty soap, theoretically, is of little value. But any soap, no matter how fatty, when combined with water gives off some alkali, and the over-fatty ones are probably simply less active than others in the same



direction. It will probably conduce to clearness if the method of treating cases of different severity are described in detail.

The patient whose skin is dotted with comedones, and in whom suppuration is at a minimum, should every night steam the face over hot water, and bathe it for ten minutes. With a suitable expressor the comedones should be extracted. The common habit of squeezing them out with the nails, or the more objectionable one of using a watch-key, is apt to do more harm

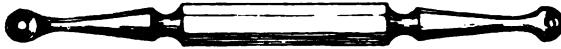


Fig. 25

than good. The watch-key method, especially, is exceedingly painful, bruises the skin to which it is applied, and, by forming a *locus minoris resistentiæ*, hastens the development of the pustule which it was intended to prevent. Everyone has his favourite form of comedo-extractor, and the annexed diagram (Fig. 25) shows one which at all events has certain advantages. It can be applied accurately over the comedo, which remains in sight, and the edges being carefully rounded there is little risk of damaging the tissues. The comedo should be expressed by a shaking movement, and not by pure force. When all the prominent comedones have been removed, the face should be rubbed with some sulphur-containing soap. One of the most satisfactory is the sulphur, camphor, and Peru balsam soap, originally introduced by Eichhoff, and now made by all medicated soap manufacturers. With a shaving brush an abundant lather is produced, and this is rubbed for a few minutes into the skin. For the first few days it is wiped off with a damp cloth, but as the skin becomes habituated to its use it may be rubbed in over an increasingly longer time, until eventually it is rubbed in entirely and there is none to wipe off. Few skins can stand the continuous use of this soap, and it is desirable that one night's rest a week be taken, on which night the skin should be simply anointed with vaseline.

If the comedones are very numerous and the skin, as

usual in such cases, is tolerant, other mechanical means of removing them are handier than the expressor. A soap combined with sand is used occasionally, the mechanical effect of which is to rub away the upper portions of the comedones and thus to facilitate the action of the medicated soap. For well-to-do patients "marble sand" soap may be ordered, but the much-advertised article which "won't wash clothes" is most efficacious. Once a week is often enough to use these sand soaps. Vleniminkx's solution is another useful method of applying sulphur: 10 parts of sulphur, 20 of quick-lime, and 200 of water are boiled down to 120 parts in an iron vessel. At first it is necessary to dilute this freely (1-5), and it is simply dabbed on at night after bathing the face. The strength is gradually increased as tolerance is established, until the pure solution is used.

Where pustules have developed, these should be opened and cleaned. Some apply to their interior strong carbolic acid, the result of which is to cause quite a considerable slough which requires some time for its removal. As a general rule, if the pustules are properly opened and squeezed out, they do not tend to re-form. The presence of a considerable number of pustules does not altogether interdict the soap treatment. The general benefit is so great that patients are willing to endure the small extra discomfort. Where, however, the parts are very much inflamed and the pustules very numerous, sulphur may be applied in lotion along with calamine, instead of in the more active form of soap. The following is the prescription used in the Edinburgh Royal Infirmary:—

R	Sulph. Præcip.	ʒj
	Calamina	ʒj
	Zinci Oxidi	ʒj
	Glycerini	ʒj
	Aquam Destill. ad	ʒiv

Sig.—Shake and paint on with a brush.

Under this more soothing treatment the evidences of irritation will diminish, and the soap treatment may then be resorted to. If the pustules are very numerous and large, so much so as to amount to cutaneous abscesses, they must have a more thorough treatment,

being freely opened, and kept open until the cavities close up. During this treatment the face should be bathed at intervals with an antiseptic lotion, either boracic acid or perchloride of mercury, in order to diminish the risk of further infection of the raw surfaces from without.

A method of treatment which has certain advantages, but which has not attained much popularity in this country, is "shelling" the skin with resorcin. Equal parts of resorcin and Unna's zinc paste are applied, thickly spread, to the skin twice daily, for three or four days. At the end of this period some soothing ointment is applied, and in a day or two more the skin peels off in large flakes, bringing with it the hyperkeratotic horny layer and a large number of the comedones. The method involves confinement to the house, and in that respect is disadvantageous, but it does more in a week than probably two months of the milder treatment will accomplish.

As already indicated, the treatment must be prolonged and persevering. Even after all signs of the disease have disappeared the patient should go through the soap treatment once a week. In view of Sabouraud's theory that seborrhœa of the scalp is intimately associated with acne, an observation which undoubtedly has a certain amount of clinical support, the scalp should be examined for seborrhœa, and that, if found, should be treated appropriately.

ACNE VARIOLIFORMIS.—This is a rare and much severer disease than acne vulgaris. It occurs most commonly on the face and scalp, and commences as a firm reddish papule, not as a comedo. This becomes surmounted by a pustule, and then a considerable necrosis takes place in the centre, which when thrown off, leaves a resulting scar closely resembling that of variola. Sabouraud says that it begins in a cocoon, and is essentially the same disease as acne vulgaris.

Some look on all cases as syphilitic in origin, and there is frequently though not invariably a history of this.

TREATMENT.—Iodide of potash is generally useful; cod-liver oil and iron are sometimes of value. Locally, some mild antiseptic ointment should be applied.

## SYCOSIS.

(σύνκορ — a fig.\*)

Although the comparison may not be strictly correct, sycosis is best understood by the student as an acne of the beard regions. It consists in the appearance of pustules in the hair follicles of that region. In the acne region the hair follicle is a mere appendage of the sebaceous gland; in the beard region the relationship is reversed. The term is still applied a little loosely, though we have clearly removed from its scope the old sycosis menti, or ringworm of the beard.

All affections of that region are liable to lead to pustules, and in order to differentiate sycosis clearly from the others it will be useful to consider them for a moment together. The four common affections are sycosis, ringworm, eczema, and impetigo contagiosa. Impetigo contagiosa is most easily separated from the others; it is more rapid in its development, and the character of the crusts produced is usually very typical. When the crusts are removed the skin beneath is seen to be very little reddened; there is, however, more moisture than when the disease attacks the non-hairy skin. In the other three diseases pustules form around the hair follicles, and in separating them from each other one has to lay stress upon the *prominent* feature in each. Pustules are common in ringworm when the affection is derived from one of the lower animals, but even in such cases there is almost invariably one characteristic which enables the diagnosis to be made at once. That is *the presence of deep hard nodules* scattered here and there over the affected surface, the hair over which usually comes out much more easily than that on the surrounding skin. The real difficulty in separation lies with the two remaining ones, and more than one dermatologist of eminence refuses to recognise any distinction between them. The difference is that in sycosis the pustules around the hair follicles are the predominant lesion, while in eczema

\* There is not much resemblance traceable to the dried fig familiar in this country, but the pink centre of a fresh ripe fig with the yellowish-white seeds dotted through it is somewhat suggested by the reddened skin and the yellow pustules of a typical case of the disease.

they are secondary to the general inflammation of the skin. The pustules in sycosis are much more numerous and much more distinctly in relation to the hair follicles than are those of eczema. The difficulties of diagnosis are increased by the fact that in sycosis there is almost invariably a certain amount of dermatitis and, reddening of the intervening skin, and in some cases it is indeed impossible to draw a distinction.

Of the two, sycosis is the more serious condition. The infection is deeper, and consequently more difficult to cure. The disease is most common upon the cheeks, where the number of pustules, each surrounding a hair, may be very great. It is less common on the moustache region. That portion of the upper lip immediately below the nostrils is often the seat of an affection often confused with sycosis. It is really, however, a dermatitis brought about and kept up by the irritating discharge of a nasal catarrh, and no amount of local treatment will do any real good until the catarrh is cured. The disease comes within the sphere of the rhinologist, but many cases are easily enough cured by careful and frequent syringing of the nostrils with weak boric acid lotion (grs. iv- $\frac{3}{4}$ j).

Another form of eruption resembling sycosis occurs in individuals with very strong beards. A number of pustules are present, usually under the chin, and these when closely examined are seen each to surround a hair of which the free end has not escaped from the skin, but grows downwards as it enlarges and thus produces irritation.

With a little trouble the buried end may be disintegrated, and the pustule disappears. No local application can do anything for this deformity, which if troublesome is best treated by allowing the beard to grow.

ETIOLOGY.—Bacteria are certainly responsible for sycosis. The sheath of the extracted hair, and the pus which follows its extraction, teem with staphylococci, and proof of their causal relationship with the disease can easily enough be obtained by anyone who chooses to make the experiment. A rarer form of the disease is the bacillogenic sycosis described by Mibelli.

TREATMENT.—The disease is always chronic, and has no natural tendency to disappear. In treating it the

first matter for consideration is the question of shaving. On this point there is much difference of opinion, some maintaining that shaving tends to spread the infection and thus to aggravate the disease, and that the irritation of the razor is injurious. On the other hand the bulk of experience supports the view that the facilities for treatment given by shaving more than counter-balance these disadvantages. A half-way house may be found, if desirable, by clipping the beard. The soap treatment is not so eminently applicable here as in acne, often appearing to irritate the skin, although it is of great value in the later stages. Even in the earlier ones it is desirable that the patient should shave with some antiseptic soap, *e.g.*, the sulphur one already referred to under acne. The hairs in the centre of the pustules should be extracted *before* shaving. This removes a certain amount of the contagion, and facilitates the access of the antiseptic used to those organisms which remain in the empty follicle. The case may then be treated by various antiseptic ointments, oleate of mercury, ammoniate of mercury, sulphur, or salicylic acid; whichever is selected should be very thoroughly rubbed into the skin, say for ten minutes twice a day. Weak preparations thoroughly applied are far more useful than stronger ones merely smeared on the surface.

Many cases require more heroic treatment. If a case is very obstinate, counter-irritation may be applied, with the object of attacking the organisms from within. In many chronic cases the application of perchloride of mercury in spirit (1:500) is followed by great improvement; it often blisters the part. Other counter-irritants, such as ordinary blistering, may be used. Hodara recommends nitrate of silver solutions, 1-4 per cent., and the X-rays have more than once done me good service in obstinate cases. They must be used with very great caution, for the reaction is exceptionally severe. When the disease is nearly well patients are often desirous of re-growing their beard; this is a dangerous experiment. Often, when perhaps after two years of treatment a sycosis has been subdued, and the patient has commenced to re-grow his beard, the result is that the disease

returns with all its old intensity. To be safe, the hair should not be allowed to grow until quite a year *after all trace* of the disease has disappeared.

### RINGWORM.

TRICOPHYTOSIS (*θρίξ, the hair, and φυτόν, a plant*).

Ringworm is a disease of the skin caused by the implantation and growth of a fungus. The appearances produced vary so greatly on different parts of the skin, that it is desirable to describe the principal varieties in detail rather than attempt to give any general description of the disease.

No subject in dermatology has been so much investigated and discussed of recent years as ringworm, and though research has not as yet done very much to increase our powers of treatment, our knowledge of the causes and varieties of the disease is immensely greater.

More than one disease is included under the clinical term ringworm, and though clinicians are not inclined to follow the laboratory worker and admit that the number is practically indefinite, we are all more or less agreed on certain facts.

RINGWORM OF THE SCALP, or *TINEA TONSURANS*, must be divided into two diseases, according as the fungus present is the small spored (*Microsporon Audouini*), or the large (*Tricophyton megalosporon*, *endo- or ectothrix*).

It is unnecessary for the student to enter upon a study of the botanical relationships of the two fungi; both cause a disease clinically known as ringworm. The relative proportions of the two seem to have a curious relation to the parallels of latitude. In Scotland, the enormous bulk of the cases is caused by the microsporon; in London, its proportion is between 80 and 90 per cent. (Fox and Blaxall); in Paris, 60 to 70 per cent., while in Italy nearly all the cases are caused by the tricophyton. Too much stress has been laid on the relative size of the fungus elements in the two diseases, for after all they differ comparatively little. Their arrangement is a much sharper distinction; those of the microsporon are arranged irregularly in a *mosaic*, those of the tricophyton in the form of chaplets



of beads, or *rosaries*. The terms large and small-spored have, however, provisionally established themselves, and are in general use. So long as it is clearly understood what is meant, after all a name matters little.

Ringworm of the scalp is practically restricted to childhood. Most cases commence between the ages of seven and twelve, and even if left entirely alone the disease dies out about the age of fifteen. (Ringworm of the scalp is so exceedingly rare in the adult that nothing but the most overwhelming proof should ever lead a young practitioner to diagnose it. Of perhaps a dozen cases so diagnosed which have come under my notice, only two proved to be really ringworm.)

SMALL-SPORED OR MOSAIC RINGWORM.—The first evidence of the disease is the appearance, or rather the discovery, somewhere on the head, of a small rounded spot, partly denuded of hair (Plate XXII). The size,



Fig. 26.—Portion of Hair, affected with small-spored or "mosaic" variety of the fungus (*Microsporon Audouinii*). Stained by Morris's method;  $\times 300$ .

of course, depends on the stage of observation. The hairs on the spot are short, dull, often darker than normal, and having completely lost their elasticity, are bent and twisted in all directions. If one could

imagine a cow so tethered in a rich meadow that it was compelled to feed on a circular patch, the appearance that patch would have is the appearance of early, untouched ringworm. In grazing the cow tears the grass, and the portions left are bent and twisted in all directions. The surface of the skin is covered with greyish white scales, and often a reddish ring on which the hairs are shorter than in the centre, margins the spot (see Frontispiece).

This is the most typical form of the disease, but in many cases the infection is not so localised in spots, and irregular patches of varied size are found, on which broken (diseased) and healthy hairs are found alongside each other. This latter form is almost as common as the circumscribed one, and owing to its wide dissemination it is more difficult to cure.

When a diseased hair is removed and examined under the microscope, it is found to be *sheathed* by a mosaic of fungus (Fig. 26), the elements of which are pressed closely together, so that their individual shape is altered. There may be seen, here and there, filaments of fungus, usually in the interior of the hair or in a portion of loose scale. The hair substance is broken up, and the free end has a brush-like aspect. Fig. 27 shows the appearance of the fungus when grown in a test tube, but for details of growth, etc., the reader is referred to the larger works and monographs.

LARGE-SPORED OR ROSARY RINGWORM.—Two distinct clinical types are associated with this variety. In one, the hairs are broken off so short that the patch appears quite bald, and the fragments of hair appear in the follicles as black dots. Hence the name of "black-dot" ringworm applied to it by Aldersmith, while the baldness has led to its being christened by Liveing, "bald" ringworm. The stumps are so short that it is most difficult to procure one for examination,\* and these cases are sometimes mistaken for Alopecia areata. This form is said to be due to a sub-variety of the fungus which is distinguished as the "fragile" one. In the other variety of rosary or large-spored ringworm, where the fungus



Fig. 2



Fig. 28.—Portion of Hair affected with large-spored or "rosary" variety of the fungus (*Tricophyton megalo-sporum*). Stained by Morris's method;  $\times 300$ .

is "resistant," the hairs may be even longer than those of the mosaic or small-spored variety. But the cases differ clinically in the fact that in this variety there is very much less scaling than in the mosaic form. Under the microscope the fungus elements are seen to be arranged in long rows (Fig. 28). They grow both inside and

\*They can generally be removed by a Comedo extractor.



outside the hair, and in the majority of instances are probably larger than those of the other variety. Fig. 29 shows the crateriform growth typical of this variety of the fungus.



Fig. 29.—Crateriform growth of *Tricophyton megalosporum*.

METHOD OF EXAMINING THE HAIR.—It is essential that the hair examined should be one of the short broken ones. If no care be taken in the selection, the examination is useless. The old plan of examining the hair in a drop of liquor potassae, is a satisfactory enough method for cases where microscopical examination is really unnecessary. If the hairs are obviously affected by ringworm, the caustic potash method confirms the diagnosis. If, however, there is any doubt as to the nature of a case, the method contains so many fallacies that it is of little value. Those not in the habit of constantly examining specimens are too apt to diagnose as "spores" the drops of oil emulsion which the potash causes by combining with the greasy elements of the hair, while the outlines of epidermic cells are too frequently mistaken for filaments of fungus. Cultures of the fungus can be stained quite well by Gram's or even simpler methods, but as

a rule the hair itself takes up so much of the stain that special methods are required to dislodge it. Mr. Morris has done much to popularise staining, and probably his method is the best and handiest. The hairs are first steeped in a saturated solution of gentian violet in aniline water.\* If a very fine preparation is required the hairs should be previously washed in ether to remove the grease. After ten to thirty minutes† in the stain, the hair is transferred to Gram's solution of iodine (iodine 1, iodide of potash 2, water 300) for two minutes. It is then placed on a slide, firmly

\* A solution of carbolic acid and gentian violet in water (5, 5—100) may be used instead of the aniline water dye, and has the advantage that it is always ready.

† The small-spored variety stains more rapidly than the large.

dried with blotting paper, and a drop of aniline oil containing enough pure iodine to give it a light mahogany colour is applied. This removes the loose colour from the cells of the hair, while leaving it in those of the fungus, and in most cases the fungus is now readily seen under a low power of the microscope. If a more careful examination be required, the iodine aniline oil should be removed by pure aniline, a cover-glass placed on the top, and the specimen examined with the high power. If it is desired to keep the preparation permanently, the aniline must be washed off with benzol or xylol, and the hair mounted in Canada balsam.

While I do not propose to discuss the cultural peculiarities of the different fungi, a simple cultivation is sometimes of real practical value; this is specially so in cases which are apparently cured. If the scalp is very carefully searched one or two short hairs not unlike those seen in alopecia areata may be found. These hairs, though they look suspicious, are in my experience very often not diseased, and for such the cultivation test is a much finer one than the microscopic. It is not necessary to compound such elaborate media as are used in the laboratory. A very convenient one is made by the simple addition of from  $1\frac{1}{2}$  to 2 per cent. of agar to unfermented beer-wort. This is filtered, put into tubes and sterilized.

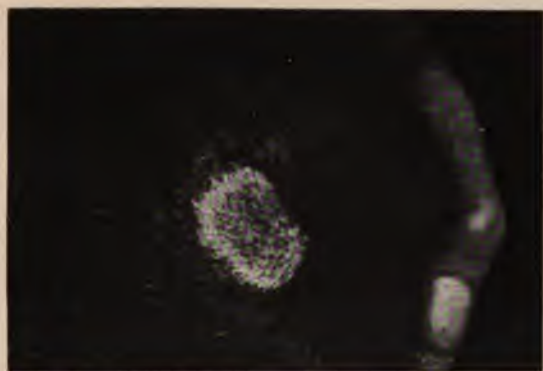
As saprophytic organisms abound in the scalp, it is usually necessary to take some means of preventing their growth. As the reaction of the wort is generally acid, they do not grow vigorously, but they may usually be destroyed without serious injury to any fungus present by soaking the hairs for a few minutes in absolute alcohol. Some varieties of fungus, notably the beard form, will grow after so much as half an hour's soaking in alcohol, and my usual plan is to incubate several hairs which have been soaked for periods varying from two to ten minutes. It is not necessary to have a laboratory and an incubator. The tube may be placed upside down, in a tumbler, on the kitchen mantel-piece, when in from three to ten days the growth will be evident.

KERION (from *κηρίον*—a *honeycomb*).—I agree with all

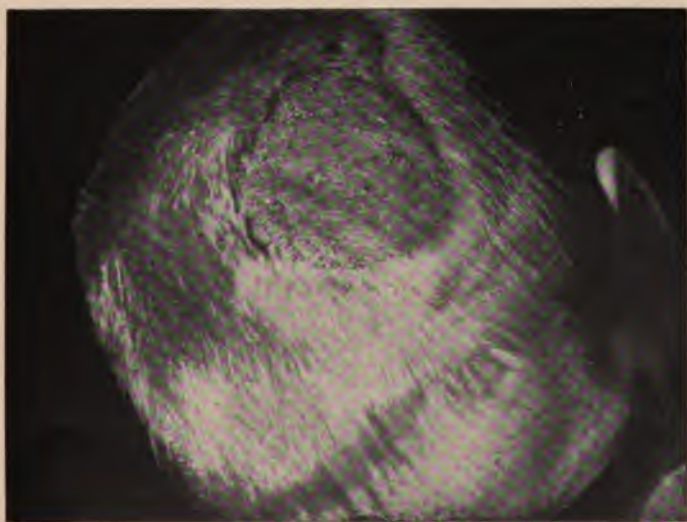
the English observers that this is a complication of ringworm that may occur whichever fungus is present. It has been described as nature's method of curing the disease, although in it nature is more severe than she usually is in her cures. The whole patch swells up, the hairs fall out, the surface becomes red and glazed, and from the dilated follicles a certain amount of sero-purulent fluid can be expressed; hence the comparison to a honeycomb. The part feels boggy, and undoubtedly suggests an abscess. If an incision is made, there is, however, no pus to give exit to; and no benefit, indeed, the reverse is derived from incision. Very often the process affects all the spots on the patient's head; sometimes a few may be left unaffected. As the hairs are cast from the follicles it is very evident that if the process affected all the diseased follicles, the cure would, though severe, be thorough. Unfortunately, a few hairs at the margin too often escape, and all the annoyance and suffering are in vain. In the case from which the accompanying illustration (Plate XXII) was taken, the fungus was of the small-spored variety, and the patient's brother had ringworm without kerion.

**RINGWORM OF THE BODY (*Tinea circinata*).**—When ringworm spreads to the body we see, just as in seborrhœa, how differently the scalp and other parts of the body respond to irritants. The irritant, in this case the fungus, which merely causes faint redness and profuse scaling on the scalp, causes on the non-hairy skin considerable redness, scaling, or the development of vesicles (*Herpes circinatus*). The scaly patches are usually circular, pinkish in colour, and often show a tendency to flatten in the centre. The vesicular patches spread more rapidly, and usually show the rings to which the disease owes its name. Not infrequently, when the disease has apparently left the centre, it re-appears, and concentric rings may develop. In certain regions, such as the groin and the axilla, where heat and moisture are present, the fungus grows with great rapidity, and the signs of irritation are so increased that this form of the disease is still sometimes described as *Eczema marginatum*. Commencing in the region of the fork the disease spreads down the thighs, and, less frequently, up on the abdomen. It

*PLATE XXII.*



RINGWORM.



KERION.





is usually easily diagnosed by its abrupt margin, and the fungus is easily found. This variety is common in hot countries, where it goes by various names (Dhobie's itch, crawl-crawl). It certainly lasts an unusually long time, but whether this is due to want of activity in treatment or to climate, is uncertain. At all events, cases of tropical ringworm in that situation generally recover under treatment in this country, when the nature of the disease is recognised.

I certainly share the views of most British observers that both forms of the fungus may cause body ringworm. It is true that on the glabrous skin the fungus elements are more apt to be large and to develop into filaments, than they are on the scalp, but this may probably be explained by the increased moisture and blood supply, brought about by the inflammatory reaction. Children, the subjects of small-spored ringworm of the scalp, so frequently have patches on the neck and face, that it is inconceivable that such patches are always due to the other variety of the fungus.

**RINGWORM OF THE BEARD (*Tinea barbæ*).**  
—The disease in this region presents itself in more than one form. It may appear as *Tinea circinata*, ringworm of the body, of which the skin of the beard region forms a part. Here we have the rapid development of a ringed patch, which is fortunately as amenable to treatment as *tinea circinata* generally is. The more common variety, the old *Sycosis menti*, is a deeper infection, and the process generally bears a close resemblance to kerion. Thus, the affected part is almost always swollen, nodular, and painful; in fact, in any doubtful affection in this region the presence of nodules should always suggest ringworm. The hairs do not break off so readily as in ringworm of the scalp, probably because they are stronger and more resistant. On cultivation the fungus of beard ringworm shows differences from those found in other forms. The culture (Fig. 30) resembles



Fig. 30.—Culture of Ringworm of the beard.

a splash of plaster on a wall, and the surface has a characteristic powdered sugar appearance.

RINGWORM OF THE NAILS.—This is a comparatively rare affection, astonishingly so when one considers the facilities for inoculation of the nails in children, in whom it hardly ever seems to occur. When the nail is affected, it has a dull, opaque appearance, and tends to break. Sometimes the disease extends in a line, perhaps a quarter of an inch broad, some distance down the nail, without spreading to the lateral portions. It can only be definitely diagnosed by examining scrapings under the microscope.

TREATMENT.—When the cause of a disease is so accurately known as in this instance, treatment should theoretically be easy. Unfortunately this is not so in practice. The ringworm fungus is destroyed easily enough in the laboratory, but it is different when we are dealing with patients, the difficulty being to get the destructive agent brought into contact with the fungus. Some, indeed, go so far as to maintain that it is useless to endeavour to destroy the fungus, and that all we can hope for is to promote such a reaction of the skin as will *indirectly* cause its death. It may be admitted that in the majority of cases of ringworm of the scalp, means other than the *direct* destruction of the fungus are more generally useful.

In RINGWORM OF THE BODY (*Tinea circinata*) the fungus is superficial and easily reached. Here the directly destructive method is eminently successful. The unguentum hydrarg. ammoniat. or any anti-parasitic ointment, regularly applied, will soon get rid of the disease. Probably harm is often done by the excessive strength of the application. The fungus does not require for its destruction those concentrated remedies which too often replace the irritation of the fungus by an irritation of their own. The old-fashioned plan of painting such cases with tincture of iodine is a combination of the direct and indirect methods of treatment, and is often useful. Aldersmith recommends acetic acid 2 parts, liniment iod. 1 part. This should be painted on every day or every other day, and should reach a quarter of an inch beyond the disease.

RINGWORM OF THE SCALP.—Although possibly the

variety of the fungus has some bearing on the prognosis of any given case, the large-spored variety being usually more easily got rid of than the small, it has none on the treatment. The direct method is shown in its least favourable aspect in treating ringworm of the scalp. The hair follicles are deep, and the fungus extends throughout their entire length, and it is nearly impossible to induce any destructive agent to penetrate to the bottom of every individual hair follicle. Still, parasiticide remedies have great advantages. Although much of the fungus is in the follicles, a great amount of it is found on the broken hairs and in the scales surrounding them, and these are eminently open to the effects of local applications, which have the further important effect of checking the spread of the disease.

In an ordinary case of ringworm of the scalp of a child, the first thing to be done is to have the hair cut short, and the diseased spots identified. The hairs around each spot should be extracted. Care must be taken with regard to the use of brushes, towels, caps, etc., and the child should sleep alone. The head should be washed frequently with some antiseptic soap. I cannot agree with Mr. Morris, that water being an essential to the existence of the fungus should be withheld. The fungi have no difficulty in getting all the moisture they require from the tissues, and frequent washing certainly prevents the development of new areas, besides removing mechanically a large amount of fungus.

*The direct Method.*—In considering the applications to be made, we shall deal first with the drugs which have a reputation as parasiticides, premising that after all much more depends on the method of application than on any particular drug selected. The drugs which may be used are legion, and the actual selection is a matter of individual taste. Most of the mercury salts, copper salts, resorcin, salicylic acid, carbolic acid, boric acid, many of the modern synthetic compounds, etc., have the power of destroying the fungus.

The form in which they are applied is important. Seeing that the fungus extends down to the base of the follicle, it seems unreasonable to expect aqueous lotions containing these drugs to be of much value. The two



forms of application with which to reach the fungus are ointments and soaps. The mere spreading of an ointment on the surface is of very little value. It must be *thoroughly massaged* into the scalp with the thumb. The more prolonged and thorough this massage is, the more rapid will be the cure. It should certainly not occupy less than ten minutes twice daily. Medicated soaps are theoretically more efficacious, since their power of removing grease should enable them to penetrate better. They, however, do not carry with them the medicament so completely as do the ointments, but a combination of soap and ointment, in what Unna calls salve soaps, is often useful.

There are methods of increasing the activity of any given drug. Thus, salicylic acid, with its solvent power on the epidermis, is a useful addition; carbonate of potash is another. The basis of the ointment is important, and should in some proportion at least be lanolin. It seems to be universally admitted that lanolin (*adepts lanæ*) has a greater penetrating power than other bases. A useful ointment is the following:—

R.	Sulph. Præcip.	
	Hydrarg. Ammoniat.	āā ʒss
	Acid. Salicylici	grs. xx
	Lanolini	
	Vaselini	āā ʒss

*The indirect method* aims at stimulating the skin to destroy or throw off the fungus. The popular method is the application of iodine, which, in addition to its irritant action, has also a directly destructive one. It is, however, not very efficacious in ringworm of the scalp. Blistering is a remedy which is often successful. Under this are included many forms of application. The blister is not necessarily produced by blistering fluid. The application of pure carbolic acid, recommended by some on account of its antiseptic powers, owes its value chiefly to the irritation which it sets up. Strong solutions of perchloride of mercury in spirit have the same action. No doubt these drugs destroy the fungus on the surface, but they do not penetrate into the follicles. The frequency of their application must be regulated in each individual case, and the irritation of one application should have nearly disappeared

before another is made. Carbolic acid is applied pure, and the perchloride spirit, which is curiously irregular in its effect on different cases, should commence at a  $\frac{1}{2}$  per cent. and be increased as experience shows to be necessary. Chrysarobin, which is a favourite remedy with Unna and Morris, requires care in its application to the head on account of its tendency to cause erythema of the face, and conjunctivitis. I look on its action as mainly, if not entirely, indirect. Unna applies it in his compound (5 per cent.) chrysarobin ointment (see page 150), and covers the forehead of the child with a special gelatin dressing to prevent the drug from reaching the face. Mr. Morris rubs in a chrysarobin ointment for ten minutes, and then wipes away the excess. A useful way of applying it is in the form of the salve stick, which is a handy and most economical method of treating many skin diseases. It is composed in this instance of :—

R. Chrysarobin	ʒiij
Wax	ʒij
Lanolin	ʒv

These are melted together and shaped into a rod like those with which our grandmothers used to fix their curls on their foreheads. It may be rubbed vigorously on with less risk than the ointment of spreading to the face.

A somewhat heroic mode of treatment is that advocated by Aldersmith, *viz.*, the application of croton oil. The object of this is to imitate nature and to produce what is known as ARTIFICIAL KERION. It is a very dangerous remedy, and must be used with the greatest caution, for in its effects it often outstrips nature in its power of injury, and leaves the part permanently bald. If it is to be used at all, it should get a fair trial and be used as Aldersmith directs. A small part is selected in order to test its effects. The hair is cut short for some distance around the spot, and carbolic lanolin is applied around to limit the spread of the oil. One drop of croton oil is then brushed over the part with a small camel's hair brush, and the part covered with a small *linseed meal* poultice. The poultice is directly applied and covered with oil silk. Means must be taken to prevent it slipping, as if it does, the

pustules produced by the oil will be spread. The painting is repeated daily or every alternate day until either the whole part swells up, as it does in kerion, or until a purulent folliculitis is produced without elevation of the skin. The croton oil may then be stopped, but the poultices should be continued until all the hairs have fallen from the follicles. The after-treatment is that of kerion. If the diseased hairs are few in number they may be treated by the application of the oil on a blunt needle passed into the diseased follicle.

The effect of croton oil must always be carefully watched, as there is a possibility of producing sloughing of a portion of the skin. The first indication of this is, according to Aldersmith, a whitish pellicle on the surface, quite different from the redness usually produced.

*The Mechanical Method.*—Theoretically, epilation is an invaluable addition to any other treatment. The removal of the diseased hair is clearly most desirable. Unfortunately, it is in the majority of cases of very limited value, because the hairs break off in the forceps and the diseased part is left in the follicle. Indeed, it is useless in any except skilled hands, in which it is a valuable addition to other treatment. With great care it is possible to remove a number of hairs entire, but the operation is tedious. As the disease improves and the hairs are less affected, its value becomes greater, and it is by no means a bad practice to extract the apparently healthy hairs around a small diseased area, for some of them will almost certainly be in the first stage of infection. Theoretically, its value is very great. It is its practical inutility which tells against it.

In a few cases I have tried the effects of the X-rays as a depilatory. The first was at least encouraging in its results. The boy's hair came out over all the diseased area, and in the empty follicles the disease was easily destroyed. Unfortunately, a patch at the side of the head escaped observation, and the process had to be repeated. The subsequent growth of hair was luxuriant, and that case was certainly successful.

When tried in other cases the results were not so satisfactory. Individuals vary greatly in their response to the X-rays, and while the method may be useful in emergencies where a rapid cure is essential, I am

not at present prepared to recommend it as a routine treatment.

KERION.—The essence of treatment when this condition has developed is an attitude of masterly inactivity. Stimulant applications never do good and often do harm. Either zinc ointment or perhaps still better, starch-poultices, should be applied until the irritation subsides and the part flattens down to its original level, when it must be carefully examined in order to discover whether any of the fungus has survived. The part remains red for a considerable time, and if the hair be long in reappearing, some stimulant application, such as turpentine, should be used. Generally, however, no treatment but the soothing poultice is required.

RINGWORM OF THE BEARD.—As already indicated, ringworm of the beard region may appear in two forms. It may spend its force on the skin, and run the course of ordinary *tinea circinata*. According to some this is the antecedent stage of the severer form. With that opinion I do not agree. At all events, in the many cases of nodular ringworm of the beard which have come under my notice there is usually no history of any such commencement. This variety is further as amenable to treatment as is *tinea circinata* generally, disappearing in a few days under the application of unguentum hydrarg. ammoniat. or other anti-parasitic ointment.

In typical ringworm of the beard we have not the same difficulties with regard to epilation as in ringworm of the scalp. The hairs here do not so readily break, the extent of the disease is generally fairly defined, and epilation is of the very first importance. The hairs over the diseased part should be allowed to grow long enough to be easily seized by the forceps, and any part where there are nodules should be thoroughly depilated. After this has been done some antiseptic ointment should be rubbed in, and seeing that the diseased follicles are now all patent, the chances of its penetration to their bases is very much greater. While any desired antiseptic may be used, I have a definite preference for a 10 per cent. oleate of copper ointment. Ringworm of the beard has about it none of the despair which attaches to ringworm of the scalp.

RINGWORM OF THE NAILS.—This is, as may easily be



expected, a very obstinate affection. It is difficult to destroy the fungus in a hair follicle, and still more so to destroy it in a hard substance like the nail. As much as possible must be cut away, and the remainder should be scraped down with a piece of glass as thin as possible before the application is made to it. This application may be chrysarobin, ammoniated mercury, or any other parasiticide. While there are not many who approve of Harrison's method of treating ringworm of the scalp on account of the complications liable to ensue, there are few who do not regard it as valuable in the treatment of ringworm of the nails. He uses two solutions:—

R	No. 1.—Liquor Potass.	
	Aq. Destill.	aa ʒss
	Potass. Iodidi	ʒj
R	No. 2.—Hydrarg. Perchlor.	
	Spirit. Vini	grs. iv
	Aq. Destill.	aa ʒss

No. 1 is applied on a piece of lint and covered with protective. After remaining on for fifteen minutes, a piece of lint soaked in No. 2 is applied for twenty-four hours. The theory is that the iodide dissolved in the liquor potassæ is enabled to make its way among the softened nail cells, and that it is followed by the mercury, which combines with it to form the red iodide in the immediate neighbourhood of the fungus. This method, which, as already said, is sometimes followed by unpleasantly severe effects upon the scalp, is useful in ringworm of the nails.

When one considers the interruption to education resulting from ringworm, its importance is impossible to exaggerate. While perhaps the majority of cases are well in six to eight months, there are too many which, even under the most active treatment, last for two, three, or even more years. It is in such cases that the pressure put on the practitioner to certify the child as free from the disease is very great. No patient should ever be certified as free from ringworm unless, on a careful examination, after three weeks without any treatment, no scaling and no broken hairs are to be found. As long as these persist there is certainly fungus present, and before giving a certificate the head should be examined, not casually as is too often done, but care-

fully with the aid of a lens. Personally, I rarely give a certificate that a child is free from ringworm. It seems to me rather a rash thing for anyone to do. It is safest to state that, having carefully examined the patient, no trace of ringworm has been detected.

#### FAVUS (HONEY-COMB RINGWORM).

(*Favus—a honeycomb.*)

Favus is another disease of the hair follicles, hair, and surface epidermis, due to the growth of a fungus. It is curiously capricious in its geographical distribution. It is common in France, rare in Germany, common in



Fig. 81.—Showing moist Dermatitis and one or two Scutula.

Scotland, and it was almost unknown in the South of England until the action of the Russian Government sent Jews and Favus together to London. Like ringworm, it may affect any part of the skin, and even the mucous membranes, but, like it, it is much more common



upon the scalp. Its most striking feature is the production on the surface of rounded, cup-shaped crusts, or *scutula*, but it may also give rise to a moist dermatitis with vesicles, not unlike *Tinea circinata*. Fig. 31 shows this moist dermatitis and one or two scutula. The boy's scalp was severely affected. Plate XXIII is a very typical example of long-standing Favus of the scalp. The fungus which causes the disease was described in 1849, and was named by its discoverer the *Achorion Schönleinii*. It differs from that of the more familiar ringworm both in its method of growth and in its method of attacking the hairs. While it is not always possible to distinguish under the microscope the one fungus from the other, there is rarely any difficulty when the whole facts of the case are known to the observer. The hairs in a patch affected by favus are not broken off, as are those of ringworm, but they differ from the normal hairs around in their stiff, lustreless appearance, and very often in colour. When such a hair is examined under the microscope,\* it differs entirely from those affected by any of the varieties of ringworm. The elements of fungus in it are longer ;



Fig. 32.—Part of a hair affected by Favus. Hair comes out entire; long filaments of fungus inside the shaft; a felt-work of fungus in a portion of the sheath. Stained by Morris's method;  $\times 110$ .

they completely fill the interior of the hair, and obliterate altogether its normal structure; there is no sign of the medullary canal. If a portion of the root sheath adheres to the hair, the difference from the ringworm fungus is not so striking (Fig. 32), for here the elements are shorter and more closely resembles the spores of ringworm. It is true that they are usually somewhat longer than they are broad, but this must not be taken as an absolute rule. The scutulum (see Frontispiece and Plate XXIII) is a sulphur yellow mass of varying size,

\* The staining method described under Ringworm is of little use in Favus, except in expert hands. The fungus in the hair sheath is easily stained, that inside the hair only with great difficulty. As a rule there is so much fungus that it is easily detected by the potash method.

*PLATE XXIII.*



FAVUS.



showing in the centre a depression which becomes more marked as the scutulum enlarges. This is not due, as used to be taught, to the anchoring down of the centre by a hair, but to the fact that the fungus elements of which the scutulum is almost entirely composed are more active and moist at the margin, while at the centre they are dry and closely packed together (Fig. 34). A scutulum develops when the fungus is grown on nutrient agar in a test-tube (Fig. 33). When a scutulum is forcibly removed it is seen to occupy a depression in the skin, the surface of which is moist and inflamed. To the pressure of the hair roots between the scutulum and the skull is due the complete and permanent baldness so often caused by favus. The disease itself does not tend to destroy the hairs, their destruction is merely mechanical. If the scalp is kept free from scutula by careful washing, there is no interference with their growth. If left alone, the disease steadily advances until the entire scalp is involved, and, if the case is neglected and scutula are allowed to form, the disease ultimately cures itself by destroying all the follicles, and thus producing complete and permanent baldness.



Fig. 33.—  
Culture of Favus



Fig. 34.—Section of a Scutulum *in situ*; very thin layer of epidermis beneath, thin horny layer above. The fungus in the centre is more closely packed, hence the depression;  $\times 100$ .

Two domestic (?) animals, the cat and the mouse, are attacked by this disease, and are in many cases responsible for spreading it. In the mouse the disease is much



more serious than in the human subject, for the pressure effects of the scutula are so great that the bones of the skull are eroded, and the animal dies. The cat acquires the disease from its victim, and one could regard with equanimity this illustration of retributive justice were it not that it often carries the disease on to the children of the household. In a very large number of the cases of both favus and ringworm, domestic pets are the source of the disease. In many cases favus is transmitted from one child to another, but it is remarkable how often one finds one member of a family alone affected, while, unless extraordinary pains be taken, that is quite exceptional in ringworm.

DIAGNOSIS.—When scutula are formed there is no difficulty in diagnosis. In no other disease are such structures produced. The mousy, or damp straw odour, which some lay such stress upon, is due to the decomposition of dead fungus, and a somewhat similar odour is often noted on the heads of neglected children. If scutula are not present, the mode of infection of the hair should suffice for diagnosis; if not, the case may be left to itself for a few days, when the scutula will develop at the follicles. On the non-hairy skin, the scutula, when they do develop, are usually more perfect than on the scalp, but quite frequently their place is taken by a dermatitis, sometimes moist, sometimes dry and scaly. In these scales, of course, one might be fortunate enough to find the fungus elements, but as a rule, the disease is present elsewhere in more typical form, and thus the diagnosis is simplified.

The disease sometimes attacks the nails. It may affect the nail proper, or may limit itself to the nail bed, where a scutulum develops and raises up the nail plate. As in ringworm, considering the facilities for inoculation, one is surprised at the rarity of the infection of the nails. Attempts at treatment on the same lines as in ringworm of the nails (*q. v.*) may be made, but the most thorough method is radical removal.

PROGNOSIS.—Left to itself the disease goes on for ever. A patient who was for a short time under my care had had the disease since 1845, and has communicated it to all her children. Among those under whose care she had been were Hughes Bennett, Warburton Begbie, and Grainger Stewart.



**TREATMENT.**—There are three methods of attacking the disease. Parasiticides may be employed to destroy the fungus, the skin may be irritated so as to throw it off, or it may be mechanically removed. Each of these methods involves first of all the removal of the masses of scutula, either by starch or oil poulticing.

The fungus is less open to directly parasitic remedies than that of ringworm. In that disease, although the fungus is difficult to reach, down in the follicles, the way in which it erodes the hair renders the penetration of the drug into the hair comparatively easy. Here the outside of the hair is not eroded, and antiseptics exert most of their effect on any fungus which happens to be free in the follicles or on the surface; very little can penetrate into the interior of the hair. The indirect method of setting up irritation is of more value, although in favus the new growth of hair does not have that curious resistance to the attack of the fungus which it often seems to have in ringworm. The method of counter-irritation by chrysarobin is, however, a favourite one with many.

Epilation is of very much more value in favus than in ringworm. The hairs do not break, but come out entire, bringing with them the swollen root sheath, often loaded with fungus, and leaving a patent follicle into which antiseptics quite easily penetrate. Indeed it may be said that the cure of any given case of favus depends on the care and thoroughness with which epilation is carried out, and if the disease is recognised at its commencement it can be cured quite easily.

In the X-rays we have a method of depilation very superior to any previously at our disposal. The daily application of these to a case of favus will cause the hair to fall out from the entire scalp in a period varying from two to five weeks. The hairs bring most of the fungus with them, and any that is left in the follicles is easily reached by an antiseptic ointment.

For depilatory purposes the tube should be placed closer to the patient than in the case of lupus, etc., and caution must always be exercised so that the reaction is not too severe. In the first case in which I used the rays for this disease, one part of the scalp became violently inflamed, and the hair on it has never returned

Cautiously used, they are of inestimable value, and their introduction has entirely altered the formerly gloomy prognosis of favus.

The ointment to be applied is a matter for choice. Personally, I believe the copper salts to be the most efficacious, and since the disease is commonest in the poor, the cheapness of an ointment composed of bluestone and lard is of considerable importance.

### ALOPECIA AREATA.

(ἀλώπηξ—a fox; foxes often have bald patches on their coats.)

Belief in the infective nature of this disease is rapidly gaining ground, and I have much less difficulty in including it under the infective inflammations, than I had when writing the first edition of this book two years ago. That there is a patchy baldness due to some obscure nerve cause is most probable, but such cases should not come under the term of Alopecia areata.



Fig. 25.—Very extensive case of Alopecia areata. Duration one year.

The disease consists in the development of small round spots, more or less completely denuded of hair. These increase in size and number until in severe cases every hair upon the body may disappear. The most common seat of the disease is the scalp, and there the appearances are exceedingly characteristic. The patches are rounded, the skin is smooth and somewhat depressed below the surrounding level, not because it

has undergone any atrophy, but because the hair roots, which make up so large a proportion of the scalp, have disappeared. The surface is not always absolutely free of hair. As a rule, at the margin there are found those short broken hairs having the shape of a "point of exclamation," which are so characteristic of the disease (see Frontispiece). But there is also another type of the disease where, at irregular intervals over the surface of the patch, the point of a hair may be seen protruding from a follicle mouth. This may be lifted out by the forceps without any effort, and it will be noted that about four fifths of the hair lies beneath the surface. Very often it is surrounded at the level of the follicle neck by a collar of sebaceous material.

In some cases the scalp is notably greasy, in others there are numerous scales of seborrhœa. In one case which I reported briefly in the "*Scot. Med. & Surg. Journal*," July, 1901, there were actual comedones, but in many cases the scalp between the diseased patches is obviously quite healthy.

ETIOLOGY.—For a long time clinical evidence has been accumulating in favour of the communicability of this disease. Bowen reports an epidemic in a girl's home, where after the introduction of one case, sixty-three out of sixty-nine girls were affected. On the re-admission of the same patient, six years later, a second epidemic occurred, in which forty-five out of forty-nine children were attacked. Less striking instances of infection come under the observation of anyone who has much experience of the disease. In investigating the subject for my paper at the International Congress of Dermatology in Paris, I found some evidence of contagion in eighteen out of sixty-three cases.

Mr. Hutchinson's theory that Alopecia areata is a sequel of ringworm is one with which I do not agree, and yet I must admit that one sees now and then cases seeming to support it. It is not uncommon in the late stages of ringworm to find hairs closely imitating the exclamation ones of Alopecia areata, while in some cases of ringworm the hairs fall out all over the patches without any antecedent inflammation, and were one not familiar with the history, one would

diagnose such cases as Alopecia areata. Only the other day I saw a patient whose hair was growing in light coloured patches exactly in the manner of Alopecia areata, but on looking into the case I found that not only had it been diagnosed as ringworm, but I had actually cultivated the fungus from the patient and his brother. These, however, are but isolated instances in a comparatively large experience of both diseases, and ought I believe to be looked upon as mere coincidences. Mr. Hutchinson in his enormous experience has no doubt seen many more of these coincidences, and has attributed to them more importance than they deserve.

It is hardly necessary to seriously argue Dr. Crocker's position, that Alopecia areata is really unrecognised ringworm. The fact that I have made cultivations from something like fifty consecutive cases of Alopecia areata without once growing a semblance of fungus, is I think sufficient to bury that theory.

When hairs are examined by Morris's method, as described under ringworm, organisms are invariably found. In some cases they are few in number, in others they are as abundant as the fungus elements in small-spored ringworm, forming a continuous sheath around the hair. This is specially the case in the second variety of exclamation hairs, where a large part of the hair lies below the surface. The existence of these organisms has long been known. They were originally described by Dr. George Thin, who gave them the name of *bacterium decalvans*. The organism is small, rather longer than broad, although it is not easy to make this distinction in all specimens.

Sabouraud, who has in the last two years published many papers on the subject, says that if the hairs are inoculated on a specially prepared acid medium, a whitish growth first of all appears, but as time goes on there develops in the centre a brick red colony, which consists of myriads of a very fine bacillus, according to Sabouraud the cause of the disease. (See Acne and Seborrhœa). From cultures of this organism he has prepared a toxin, the injection of which into guinea pigs produced patchy baldness. My own observations do not confirm those of Sabouraud,

and I am inclined to think that the white culture which grows in every case, is in all probability, the *Staphylococcus epidermidis albus*, which has somehow acquired a virulence usually foreign to it.

Pavloff of St. Petersburg reports that the inoculation of this organism, cultivated from cases of Alopecia areata, on the skin of rabbits, produced desquamative dermatitis and "alopecie en aires."

DIAGNOSIS.—The diseases which may be confounded with Alopecia areata are ringworm and Lupus erythematosus. The bald variety of ringworm often closely imitates Alopecia areata, but when the surface of the patch is carefully examined with a lens, it will be noticed that small portions of the hairs are still present in the follicles. It is sometimes impossible to extract these with the forceps, but they are always easily removed by a comedo extractor, and then examination under the microscope clears up all doubt.

Lupus erythematosus of the scalp is only confused with Alopecia areata because it is a comparatively rare disease. The affected area is irregular in shape, the border is elevated, hyperæmic, and scaling, and the centre is harder than in Alopecia, being indeed composed of scar tissue. The appearances of these three diseases are fairly well contrasted in the Frontispiece.

"Point of exclamation" hairs are not absolutely characteristic of Alopecia areata, occurring also in late stages of ringworm, and sometimes in seborrhœa.

PROGNOSIS.—The prognosis of Alopecia areata is very easy. If a patient is under forty, the physician may confidently predict complete recovery. No doubt exceptions occur, but they are so few that one may cheerfully take the risk of them. The recovery may be, and often is, slow, and the disease very often gets worse before it gets better. After forty, every year added to the patient's age makes the prognosis less good, and one's opinion should be more and more guarded.

TREATMENT.—Since time may in most cases be trusted to cure the disease, it may if desired be left alone. There is, however, no doubt that treatment hastens recovery. I do not propose to discuss internal treatment. If the patient is anæmic or suffers from any other disease, that should be appropriately treated. The local treat-

ment is very much the same in its general principles, whether the physician is a believer in its infective nature or not. The stimulant remedies, such as acetic acid, cantharides, ammonia, etc., set up irritation, and thus indirectly destroy organisms, and on the other hand, the antiseptics employed to destroy organisms have all some stimulant properties. It is usually difficult to satisfy oneself to which application the improvement is really due. The last used remedy gets the credit, and those whose experience is small are apt to attach too great importance to what is after all a mere coincidence. It often happens that two or three cases in succession rapidly recover, when the next twenty may be utterly irresponsive to the same treatment. I believe the best remedy to be lactic acid, which I order in a spirituous lotion.

R	Acidi Lactici	ʒj - ʒj
	Ol. Ricini	ʒij
	Spt. Vini	ad ʒiv

It should be applied daily, at first cautiously, but more and more vigorously as the scalp gets used to it.

Sulphur, in the form of sulphur ointment, first recommended by Thin, and more recently by Sabouraud, is often useful. Chrysarobin, either dissolved in chloroform or in the form of the chrysarobin stick (page 185), is in the opinion of some the best remedy. Perchloride of mercury in spirit, from  $\frac{1}{2}$  to 2 per cent., is not only useful as an antiseptic, but is a direct stimulant of hair-growth. Other remedies used are ammonia, a favourite remedy of Allan Jamieson :—

R	Liq. Ammoniae fort.	
	Chloroformi	
	Olei Sesami	ʒā ʒss
	Olei Limonis	ʒss
	Spt. Rosmarini	ad ʒiv

Sig To be used cautiously, until tolerance is acquired

turpentine, paraffin oil, etc., etc. It is well when any treatment is apparently unsuccessful, to humour the patient by making a change. If this is not done the patient will probably change not only his medicine, but also his physician; and as the last medicine gets all the credit, so does the last physician.

## THE NAILS.

**STRUCTURE.**—The accompanying diagrams, which are after Unna and Van Brun, show longitudinal and transverse sections of the structure of the nail. The structure is best understood by comparing it with that of the hair. The nail is developed in a very similar method, from a depression of epidermis, the

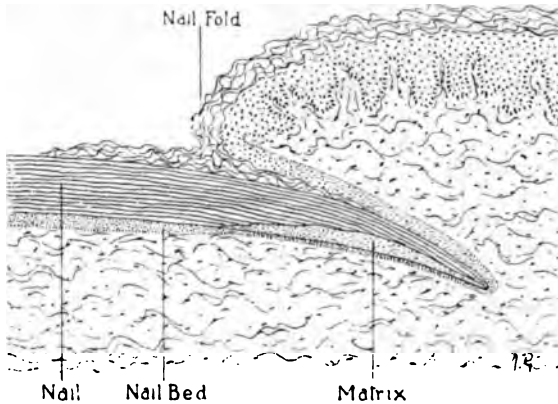


Fig. 36.—Longitudinal Section of Nail (Diagrammatic).

central cells of which are modified to form the nail cells. The difference consists in the fact that the nail does not grow free like the hair, but that one side of it is laid flat against the skin and is partly adherent to it by a system of ridges. The white crescent,

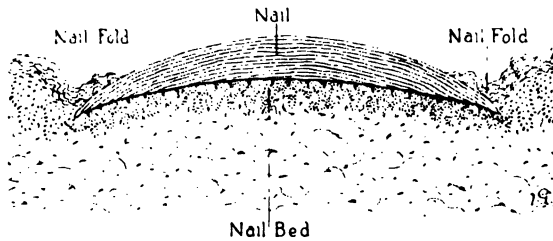


Fig. 37.—Transverse Section of Nail (Diagrammatic)

the lunula, seen in most persons on the thumb at least, and in many on all of the nails, marks the anterior lower limit of the nail matrix, but the nail also grows



from the under surface of the nail fold. The nail bed, that part covered by the nail, which lies in front of the lunula, has no concern in the growth of the structure; the nail is simply pushed along it by the addition to its substance behind. If growth be more active in the nail fold, the nail is usually thick and broad; if the cells in the lunula be more active, then the nail is thinner and finer, and the lunula is more in evidence. Fine nails with a well-marked lunula are said to be associated with blue blood, at any rate they are undoubtedly hereditary.

The white spots made much of by fortune-tellers are due to the presence of air between the nail cells, and the transverse grooves which often mark the date of some severe illness, are the result of a temporary arrest of growth at that period. Longitudinal grooving is the mark of irregular cornification of the nail substance, and unless associated with obvious local disease, is usually the expression of some systemic disturbance (gout, etc.).

The diseases of the nails are not easy either to understand or to treat.

ONYCHIA (*ὄνυξ*—*the nail*) is a purulent inflammation of the matrix, bed or wall, and the term is applied whatever be the cause. It occurs in syphilis, and is not infrequently associated with tuberculosis, but some injury is almost invariably the exciting cause. Syphilis is said specially to attack the toes of adults, tuberculosis the fingers of children. It must be treated on general surgical principles with reference to its cause, and it is usually necessary to remove the nail and to use antiseptic treatment. Onychiauxis (*ὄνυξ*—*αὐξάνω*—*to grow*) is the term descriptive of increased growth of the nail, whether it be in length or in thickness, and the term onychogryphosis (*ὄνυξ*—*γρίψις*—*curvature*) is used when this increase is twisted like a ram's horn. These two conditions are usually found in bed-ridden patients. Koilonychia (*κοῖλον*, *a cavity*) or spoon nail is usually associated with anæmia, and is the reverse of the condition of club finger seen in phthisis, etc.

The nails are affected in many of the commoner skin diseases, especially in psoriasis and eczema. Either disease may affect the *nail bed* only, when the result

on it is purely mechanical; the nail is raised from its proper resting place, but its structure remains unaltered. If, however, the disease affect the matrix or the nail fold, the nail is deformed in various ways, the surface being irregular or grooved in one or other direction. In severe eczema the nail is often much narrower than normal, and grows rapidly. The nails may also be involved in Lichen planus and in Pityriasis rubra. Their affection in Ringworm and Favus (onychomycosis) has been referred to under the heading of these diseases.

DIAGNOSIS.—The diagnosis of these affections is usually made from the presence of signs of the disease elsewhere. In fact, as Crocker says, when the nail affection is the sole manifestation, diagnosis is little more than guess work.

TREATMENT.—Just as in ringworm it is exceedingly difficult to reach the bottom of the hair follicle, so in diseases of the nail it is difficult to reach the seat of the disease. In those cases where the nail bed is affected, the difficulties are not so great, and suitable applications may be made to penetrate beneath the nail. When the disease is limited to the nail matrix and nail fold, patient, prolonged treatment is required. The best applications are probably tar and resorcin. They must be applied continuously, and their penetration favoured as much as possible by the wearing, at night at least, of rubber finger stalls. Tar ointment may be applied at night, and a solution of resorcin (2-10 per cent.) either in water or spirit, during the day. Arsenic given internally has an undoubted influence in promoting recovery in such cases, and should have a fair trial in every case.

Severe affections of the nail usually point to some constitutional defect, and tonics in addition to the arsenic are generally indicated.

### LICHEN PLANUS.

Lichen planus forms a sort of connecting link between the inflammations of the epidermis and those of the corium, for in it both are affected, and there is some room for difference of opinion as to which is the primary

seat of the disease. It will probably before long find its resting place alongside of the infective granulomata.

The word lichen is derived from the Greek *λεῖχη*, meaning the fungus which we also call by that name, but why it should have been applied to this disease is obscure. The older dermatologists used the word much more widely than their successors, applying it to all diseases in which papules were a prominent lesion, even irrespective of the fact that the papule might only be a stage in the process. Thus the papular variety of eczema was known as Lichen simplex, and when a vesicle developed on the summit of the papule, the adjective *agrius* (*ἀγριος*—*angry*) was substituted. The term was also applied to other papular diseases, such as that now recognised as *Seborrhœa corporis*, which was called Lichen marginatus.

There are three diseases in which it is still commonly used, though some restrict it to one only. That one is the Lichen planus of Erasmus Wilson, and the others are the Lichen ruber acuminatus of Hebra, and Lichen scrofulosorum. Lichen acuminatus is now generally regarded as identical with Pityriasis rubra pilaris *q.v.*, while Lichen scrofulosorum is a form of Tuberculosis.

LICHEN PLANUS is a very clearly characterised disease. It consists in the development of a series of papules, which commence and remain as such. These have peculiarities clearly marking them out from all other varieties of papule. The first peculiarity is their *shape*. Instead of being round as are most skin lesions, they have usually an *angular* outline, indeed their outlines are determined by the natural fine lines on the skin. Exceptionally, they are round or oval (Plate XXV), and have in their centre a minute depression, probably corresponding to a sweat pore. The *colour* of the papules is also peculiar. While it is not evident in every case, or rather not always evident, there is usually at some time, and often throughout the case, a *livid lilac* tinge, which is so characteristic, that when once been pointed out it should always be easily recognised. The papules have yet another peculiarity—their *apices* appear as if *burnished*. When the light strikes them in certain directions their flat surfaces

PLATE XXIV.



A PATCH LIFE SIZE.

LICHEN PLANUS.

HARRISON & SONS, LTD.



*PLATE XXV.*



LICHEN PLANUS.



When a papule is removed and sections are examined under the microscope, the appearances are so regular and consistent, that without knowing anything of the specimen, one has no difficulty in diagnosing the disease.



Fig. 38.—Section of a Lichen planus papule: horny layer thickened, epidermis thickened and its cells enlarged and lengthened laterally. Dense growth of connective tissue cells in the corium, sharply margined beneath;  $\times 75$ .

The horny layer is thickened and dense. The cells of the rete are to some extent increased in number, and more notably so in size, but an alteration in their shape is the most marked change. They are laterally lengthened, *stretched* over the growth beneath.

It is in the corium that the most notable changes occur. Occupying a little lozenge-shaped area, close under the epithelium, and sharply marked off from the rest of the corium beneath, is a collection of cells (Fig. 38). From the examination of a large number of sections from many different cases, and after fully discussing their nature with such authorities on cells as my friends Dr. Lovell Gulland and Mr. Stiles, I venture to differ from those of the text-books which describe them as leucocytes. The cells are of the connective tissue type, and are similar to those found in the granulomata. When papules from later stages are examined, and more especially the long-standing, thickened, elevated patches such as occur on the leg, further changes are seen, the horny layer being thickened, and projections running downwards from it into the rete. In the corium, lines of new vessels may be found running in among the collection of cells; indeed, a process of organisation is going on. This is to some extent confirmed by clinical observation, for although no actual

scar is produced, in many cases a condition not very distinct from it is developed. It is thus apparent that further investigation confirms the view that the cells are of the granulomatous type. There are, further, clinical facts in support of the disease being more than a catarrhal inflammation of the skin. The disease may persist for years, and in wide-spread cases there is often considerable general disturbance of the health, such as is not found in the ordinary cutaneous catarrhs. While it is possible that this view is too advanced, I find that others have their doubts as to the inclusion of Lichen among the superficial inflammations of the skin. Thus Kromayer ("Allgemeine Dermatologie," page 127) says: "In *Lichen planus*, Lichen scrofulosorum, and Lupus erythematosus . . . . . the process goes further. There is a commencement of the formation of granulation tissue, though there is no development of new tissue as in the granulomata . . . . . the skin does not completely return to the normal. It appears sunken, atrophic." In my translation of Unna's "Histopathology," Fig. 17, the cellular patch in the corium is indicated as the *primary* stage, and the epidermic thickening as the *secondary* one. On page 307 Unna says: "This is infiltration consisting in the main of connective tissue cells." At a recent discussion at the Dermatological Society of London, Whitfield referred to the infiltration as having the character of a proliferation of the vascular endothelium, while Macleod, who had examined several of Galloway's cases, said that the infiltration was made up of typical connective tissue cells.

The effects of treatment do not help us much with regard to its nature, since both local and general conditions may be successfully treated by both local and general means. Still it does seem that the remarkable effect of perchloride of mercury, as referred to under treatment, is at least not against the theory I have put forward.

The anatomy explains the peculiarities of the spots. The burnish on the surface is due to the stretching of the epidermis from beneath, and is a purely physical phenomenon, not confined to lichen, for to the same physical characters are due the mother-of-pearl edge

of early rodent ulcer, and the shining surface in *Molluscum contagiosum*. The colour is due to the thick cellular layer "which lies like a dense opaque medium over the dilated capillaries" (Unna).

ETIOLOGY.—The etiology of the disease is obscure. It is usually placed in Hebra's class of exudations or inflammations, but many consider it to be dependent on nerve influences, and Mr. Morris puts it among the "diseases due to nerve disorder." Brooke says that in almost every case his patients have previously been in sound health, and that he has never seen any marked nervous depression. The anatomical appearances seem to support the view that it is an infective inflammation, and I believe that Lesser has described an organism in connexion with it, though I have been unable to trace the reference. I have not succeeded in finding any organism.

DIAGNOSIS.—The diseases with which Lichen is most likely to be confused, are Psoriasis, Tubercle, and Syphilis. The typical papules have no real resemblance to those of typical Psoriasis, for these latter are scaly upon the surface, while those of Lichen are shiny, but when the individual lesions have run together to form patches, the resemblance to Psoriasis is often close. The scaling is of a greyer tinge than in Psoriasis, and a careful search will almost invariably detect characteristic papules. In such cases the examination of the mucous membrane of the mouth may afford conclusive evidence.

With Tubercle only the extremely chronic limited patches of the disease can be confused. In them there is almost always a recognizable suggestion of the lilac tinge already referred to. The scaling on the surface of a tuberculous lesion is coarser than that of Lichen, and very careful examination should disclose some of the typical "apple jelly" nodules, although it must be admitted that it is just in those chronic limited patches of Tubercle that these are most difficult to recognise.

Two of the eruptions of Syphilis somewhat resemble Lichen. In one of them, an early secondary eruption, the resemblance is so marked that the term *Lichen syphiliticus* is still frequently applied to it. As a rule, however, the colour is a deeper red, and the outline of the

papules is not angular as it is in Lichen (see Plate XXIV). Perhaps one of the most useful distinctions is the well-known fact that syphilitic eruptions rarely itch. The itching of an acute attack of Lichen planus is maddening. In the late tertiary period, patches analogous to the tuberculous ones just described may appear. As a rule, in such cases there is some ulceration of the specific patch, while the Lichen one never ulcerates. The previous remark about itching applies to this form of the disease also.

PROGNOSIS.—While some cases get rapidly well, as a rule the disease is prolonged and obstinate. The widespread cases often take fully six months to recover, while localised patches on the leg may remain for years. The longer they persist, the deeper is the resulting pigmentation.

TREATMENT. (*Internal*)—The favourite remedy is arsenic, and many cases do well under it. It must be given in increasing doses until improvement commences, when further increase should be stopped; for arsenic has a tendency to increase the pigmentation which naturally occurs in the disease. If any signs of its poisonous effects appear it should be stopped. It is possible, as in other diseases, to so lower the condition of the patient that there is an apparent improvement, but the disease reappears when the patient regains his strength. The bullæ which occasionally appear in this disease, are by some attributed to the arsenic so commonly administered, but there are well authenticated cases where no arsenic had been given. Pringle considers arsenic "the most deleterious drug we have for acute Lichen planus." Allan Jamieson and Morris prefer antimony to arsenic.

The internal remedy which has proved most efficacious in my hands, is that recommended by Liveing, namely, perchloride of mercury. In some cases the disease disappears under this treatment ( $\frac{1}{12}$  of a grain three times a day), with a rapidity which is unapproached by either of the other remedies. So successful was it in the first case in which I used it, that I have to congratulate myself on the fact that I was able to confirm the diagnosis by the examination of a papule which I had removed, or else I should have suspected that the

seat of the disease. It will probably before long find its resting place alongside of the infective granulomata.

The word lichen is derived from the Greek *λεϊχη*, meaning the fungus which we also call by that name, but why it should have been applied to this disease is obscure. The older dermatologists used the word much more widely than their successors, applying it to all diseases in which papules were a prominent lesion, even irrespective of the fact that the papule might only be a stage in the process. Thus the papular variety of eczema was known as Lichen simplex, and when a vesicle developed on the summit of the papule, the adjective *agrius* (*ἄγριος*—*angry*) was substituted. The term was also applied to other papular diseases, such as that now recognised as Seborrhœa corporis, which was called Lichen marginatus.

There are three diseases in which it is still commonly used, though some restrict it to one only. That one is the Lichen planus of Erasmus Wilson, and the others are the Lichen ruber acuminatus of Hebra, and Lichen scrofulosorum. Lichen acuminatus is now generally regarded as identical with Pityriasis rubra pilaris *q.v.*, while Lichen scrofulosorum is a form of Tuberculosis.

LICHEN PLANUS is a very clearly characterised disease. It consists in the development of a series of papules, which commence and remain as such. These have peculiarities clearly marking them out from all other varieties of papule. The first peculiarity is their *shape*. Instead of being round as are most skin lesions, they have usually an *angular* outline, indeed their outlines are determined by the natural fine lines on the skin. Exceptionally, they are round or oval (Plate XXV), and have in their centre a minute depression, probably corresponding to a sweat pore. The *colour* of the papules is also peculiar. While it is not evident in every case, or rather not always evident, there is usually at some time, and often throughout the case, a *livid lilac* tinge, which is so characteristic, that when once been pointed out it should always be easily recognised. The papules have yet another peculiarity—their *apices* appear as if *burnished*. When the light strikes them in certain directions their flat surfaces

and Erasmus Wilson called it *Lichen planus retiformis*. The retiform marking is the most prominent characteristic, and it seems desirable that it should appear in the name.

The cases are extremely obstinate to treatment; indeed none of those described seem to have been materially benefited by any of the numerous remedies which have been applied.

#### LOCAL INFECTIVE INFLAMMATIONS OF THE CORIUM.

Unna divides these into four groups, as follows: (1,) Sero-fibrinous inflammations; (2,) Purulent inflammations; (3,) Inflammations in which there is a tendency to necrosis; (4,) Inflammations in which the tendency is to growth (the *granulomata*). The first two are small classes, the last is one of the most important groups of skin diseases.

#### (SERO-FIBRINOUS INFLAMMATION.)

#### ERYSIPELAS.

(*έρυθρης*—*red*; *πέλλα*—*the skin*.)

This disease is so fully described in all the text-books of medicine and surgery, that it is unnecessary here to repeat the main facts regarding it. Dermatologically, it is mainly important in connexion with diagnosis, for certain other forms of dermatitis pretty closely simulate it. The disease most commonly confused with it is an erythematous dermatitis of the face, resulting often from exposure to the sun or to some other irritant. The important points separating Erysipelas from the less specific rashes are as follows: There is almost invariably a rise of temperature and a quickening of the pulse. The patient usually feels ill. On inspection, the part has an angrier red colour than is commonly present in dermatitis, the margin is usually abrupt, and irregularly shaped bullæ appear on the surface. When the hand is applied to the part it feels hot, and there is further a brawny, firm feeling which is different from the less dense swelling usually accompanying dermatitis. Sometimes the red colour is not present. Whether this is due, as in urticaria, to the amount of exudation emptying the vessels, is, so far as I know,





*PLATE XXV.*



LICHEN PLANUS.



are distinctly shiny. Lastly, as the spots disappear they invariably leave behind them more or less pigmentation.

While the distribution may be almost universal, there are certain regions which are always affected in slight cases, and most affected in severe ones. These are the flexor surfaces of the wrists, the inner aspects of the knees, and the back of the neck. When the disease is very widespread, papules are found most numerous wherever any compression is exercised, as by the garter or the corset. The papules are not altogether confined to the skin, but in some cases appear as whitish areas on the mucous membrane of the mouth. They may run together to form patches, the nature of which is sometimes not at once evident. Almost always, however, there are at the margins of the patch one or two papules in which the distinguishing features of the disease may be recognised. These patches are most common on the legs, are often covered with considerable scales, and have a certain superficial resemblance to psoriasis. On the legs, too, there is a tendency for the papules to form in chains along the line of the veins. These patches on the leg are associated with a good deal of secondary thickening, and are sometimes considerably elevated, but true warty development (*Lichen verrucosus*) is very exceptional, and probably occurs only in neglected cases.

The papules have a varied duration, some of them disappearing rapidly, and others persisting for months, and according to their duration, their site is marked by less or more pigmentation. This is always most pronounced on the legs, and it persists for many months after all other traces of the disease have passed away. Plate XXIV is made up from two cases. The spots on the thigh, the knee, and ankle are from a case which had lasted for eight months, and show the distribution on the inner aspect of the knee, the bluish colour, and the shiny surface. The disease around the ankle shows the combination of the livid lilac colour of the fresh disease, with the pigmentation due to old lesions. The spots on the calf are taken from a case which had lasted for two years, on the leg of an old man. Some of them are raised and scaly, and the rich brown pigmentation marks left by others is well seen.

When a papule is removed and sections are examined under the microscope, the appearances are so regular and consistent, that without knowing anything of the specimen, one has no difficulty in diagnosing the disease.



Fig. 38.—Section of a Lichen planus papule: horny layer thickened, epidermis thickened and its cells enlarged and lengthened laterally. Dense growth of connective tissue cells in the corium, sharply margined beneath;  $\times 75$ .

The horny layer is thickened and dense. The cells of the rete are to some extent increased in number, and more notably so in size, but an alteration in their shape is the most marked change. They are laterally lengthened, *stretched* over the growth beneath.

It is in the corium that the most notable changes occur. Occupying a little lozenge-shaped area, close under the epithelium, and sharply marked off from the rest of the corium beneath, is a collection of cells (Fig. 38). From the examination of a large number of sections from many different cases, and after fully discussing their nature with such authorities on cells as my friends Dr. Lovell Gulland and Mr. Stiles, I venture to differ from those of the text-books which describe them as leucocytes. The cells are of the connective tissue type, and are similar to those found in the granulomata. When papules from later stages are examined, and more especially the long-standing, thickened, elevated patches such as occur on the leg, further changes are seen, the horny layer being thickened, and projections running downwards from it into the rete. In the corium, lines of new vessels may be found running in among the collection of cells; indeed, a process of organisation is going on. This is to some extent confirmed by clinical observation, for although no actual

scar is produced, in many cases a condition not very distinct from it is developed. It is thus apparent that further investigation confirms the view that the cells are of the granulomatous type. There are, further, clinical facts in support of the disease being more than a catarrhal inflammation of the skin. The disease may persist for years, and in wide-spread cases there is often considerable general disturbance of the health, such as is not found in the ordinary cutaneous catarrhs. While it is possible that this view is too advanced, I find that others have their doubts as to the inclusion of Lichen among the superficial inflammations of the skin. Thus Kromayer ("Allgemeine Dermatologie," page 127) says: "In *Lichen planus*, *Lichen scrofulosorum*, and *Lupus erythematosus* . . . . . the process goes further. There is a commencement of the formation of granulation tissue, though there is no development of new tissue as in the granulomata . . . . . the skin does not completely return to the normal. It appears sunken, atrophic." In my translation of Unna's "Histopathology," Fig. 17, the cellular patch in the corium is indicated as the *primary* stage, and the epidermic thickening as the *secondary* one. On page 307 Unna says: "This is infiltration consisting in the main of connective tissue cells." At a recent discussion at the Dermatological Society of London, Whitfield referred to the infiltration as having the character of a proliferation of the vascular endothelium, while Macleod, who had examined several of Galloway's cases, said that the infiltration was made up of typical connective tissue cells.

The effects of treatment do not help us much with regard to its nature, since both local and general conditions may be successfully treated by both local and general means. Still it does seem that the remarkable effect of perchloride of mercury, as referred to under treatment, is at least not against the theory I have put forward.

The anatomy explains the peculiarities of the spots. The burnish on the surface is due to the stretching of the epidermis from beneath, and is a purely physical phenomenon, not confined to lichen, for to the same physical characters are due the mother-of-pearl edge



from the under surface of the nail fold. The nail bed, that part covered by the nail, which lies in front of the lunula, has no concern in the growth of the structure; the nail is simply pushed along it by the addition to its substance behind. If growth be more active in the nail fold, the nail is usually thick and broad; if the cells in the lunula be more active, then the nail is thinner and finer, and the lunula is more in evidence. Fine nails with a well-marked lunula are said to be associated with blue blood, at any rate they are undoubtedly hereditary.

The white spots made much of by fortune-tellers are due to the presence of air between the nail cells, and the transverse grooves which often mark the date of some severe illness, are the result of a temporary arrest of growth at that period. Longitudinal grooving is the mark of irregular cornification of the nail substance, and unless associated with obvious local disease, is usually the expression of some systemic disturbance (gout, etc.).

The diseases of the nails are not easy either to understand or to treat.

ONYCHIA (*δυνξ*—*the nail*) is a purulent inflammation of the matrix, bed or wall, and the term is applied whatever be the cause. It occurs in syphilis, and is not infrequently associated with tuberculosis, but some injury is almost invariably the exciting cause. Syphilis is said specially to attack the toes of adults, tuberculosis the fingers of children. It must be treated on general surgical principles with reference to its cause, and it is usually necessary to remove the nail and to use antiseptic treatment. Onychiauxis (*δυνξ*—*αὔξω*—*to grow*) is the term descriptive of increased growth of the nail, whether it be in length or in thickness, and the term onychogryphosis (*γρύπωσις*—*curvature*) is used when this increase is twisted like a ram's horn. These two conditions are usually found in bed-ridden patients. Koilonychia (*κοῖλον*, *a cavity*) or spoon nail is usually associated with anæmia, and is the reverse of the condition of club finger seen in phthisis, etc.

The nails are affected in many of the commoner skin diseases, especially in psoriasis and eczema. Either disease may affect the *nail bed* only, when the result

on it is purely mechanical; the nail is raised from its proper resting place, but its structure remains unaltered. If, however, the disease affect the matrix or the nail fold, the nail is deformed in various ways, the surface being irregular or grooved in one or other direction. In severe eczema the nail is often much narrower than normal, and grows rapidly. The nails may also be involved in Lichen planus and in Pityriasis rubra. Their affection in Ringworm and Favus (onychomycosis) has been referred to under the heading of these diseases.

DIAGNOSIS.—The diagnosis of these affections is usually made from the presence of signs of the disease elsewhere. In fact, as Crocker says, when the nail affection is the sole manifestation, diagnosis is little more than guess work.

TREATMENT.—Just as in ringworm it is exceedingly difficult to reach the bottom of the hair follicle, so in diseases of the nail it is difficult to reach the seat of the disease. In those cases where the nail bed is affected, the difficulties are not so great, and suitable applications may be made to penetrate beneath the nail. When the disease is limited to the nail matrix and nail fold, patient, prolonged treatment is required. The best applications are probably tar and resorcin. They must be applied continuously, and their penetration favoured as much as possible by the wearing, at night at least, of rubber finger stalls. Tar ointment may be applied at night, and a solution of resorcin (2-10 per cent.) either in water or spirit, during the day. Arsenic given internally has an undoubted influence in promoting recovery in such cases, and should have a fair trial in every case.

Severe affections of the nail usually point to some constitutional defect, and tonics in addition to the arsenic are generally indicated.

### LICHEN PLANUS.

Lichen planus forms a sort of connecting link between the inflammations of the epidermis and those of the corium, for in it both are affected, and there is some room for difference of opinion as to which is the primary

seat of the disease. It will probably before long find its resting place alongside of the infective granulomata.

The word lichen is derived from the Greek *λεϊχη*, meaning the fungus which we also call by that name, but why it should have been applied to this disease is obscure. The older dermatologists used the word much more widely than their successors, applying it to all diseases in which papules were a prominent lesion, even irrespective of the fact that the papule might only be a stage in the process. Thus the papular variety of eczema was known as Lichen simplex, and when a vesicle developed on the summit of the papule, the adjective *agrius* (*ἄγριος*—*angry*) was substituted. The term was also applied to other papular diseases, such as that now recognised as *Seborrhœa corporis*, which was called Lichen marginatus.

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*PLATE XXVII.*



MYCOSIS FUNGOIDES.



*PLATE XXV.*



LICHEN PLANUS.

Certain forms of leukæmia of the skin, in which tumour formation occurs, are often confused with this disease. They are much more rapid in their development, changes in the blood are easily observed, and the fatal termination comes about much more quickly.

### SYPHILIS.

For a description of the primary lesions and the disease as a whole, special monographs or text-books on surgery must be consulted ; here we are simply concerned with its manifestations on the skin, and these are so numerous that they can only be treated with comparative brevity. It is not very easy to lay down definite rules as to the periods in which the different skin eruptions appear, and to say, this is a secondary eruption, that a tertiary one. So far as possible, however, they will be dealt with according as they appear early or late in the course of the disease.

The earliest rash is the *roscola*, which appears on the trunk eight or ten weeks after infection. As a rule this is a mere erythematous redness, often only discoverable with difficulty, and most evident immediately after the patient has removed his clothes. Exceptionally, this rash is more developed, and exudation accompanies the erythema, leading to a pretty close imitation of erythema multiforme. Very exceptionally, small bullæ may be developed on the erythematous patches.

The next rash in point of time to appear is the scaly one, which is so often described as syphilitic psoriasis. Syphilis and psoriasis are two distinct diseases, and if the old meaning of the latter term is to be retained, the term is utterly incorrect. If, on the other hand, the views already put forward to the effect that seborrhœa and psoriasis are practically one and indivisible, are accepted, then there is perhaps something to be said for the term. This scaly rash is a combination of the early tuberculous syphilide and seborrhœa, the two diseases mutually favouring each other's development. The seborrhœic catarrh on the surface induces a hyperæmia which apparently favours the growth of the syphilitic virus, while that in its turn provides a *locus minoris resistantiæ* for the growth of the seborrhœic





PLATE XXIX.



SYPHILIS (Secondary).

Woodcut by J. H. St. John

organisms. This rash follows the distribution and spread of seborrhœa. Commencing on the head it spreads on to the forehead, where it forms a "Corona Veneris," and then to the trunk and limbs. In many respects the spots closely resemble those of seborrhœa corporis, but there are one or two important differences which make the differential diagnosis easy. The colour of the spots is a much *deeper red* than that of the seborrhœic ones, and when the hyperæmia is dispelled by pressure, a brownish yellow tinge remains. A still more marked difference is felt on palpating the spots. The lesions of seborrhœa are slightly raised above the surface, but this increase is perceptibly mainly due to thickening *of* the skin; in the syphilitic lesion the increased resistance is much more marked, and though partly in the skin, it is mainly *beneath* the surface—a feeling of new growth is conveyed to the finger. Plate XXIX is an illustration of this early tuberculous syphilide. No definite history of infection could be obtained; it probably occurred about three months previously. The colour of the eruption is fairly well reproduced. Had the patient also had seborrhœa, the eruption would have had the character of the so-called syphilitic psoriasis.

All the varieties seen in seborrhœa may be present; the spots may be very dry and covered with silvery white scales, or they may be moist and be surmounted by yellow, greasy crusts; it is exceptional for them to weep. At the contact surfaces, particularly between the buttocks, growth may be very active; and warty, condylomatous masses may appear.

Less frequently at this stage the eruption may be pustular or bullous. In fact there are very few diseases of the skin which may not be imitated by syphilis. It must therefore never be forgotten that THE SKIN ERUPTION IS NOT THE ONLY LESION, and at this secondary period the diagnosis of syphilis should never be made from the skin eruption alone. Hardening of the glands, ulceration of the throat, and mucous patches in the mouth should be carefully sought for. The eruptions at this stage of the disease pass away without leaving any trace of their existence.

The next rash in point of time to appear is rupia, of

which Mr. Hutchinson very truly says that "although of all others the most easy skin disease to represent in a portrait, you scarcely ever see it in practice." The limpet-shaped scabs are very characteristic, and the rounded numular scars which they leave are almost equally so.

The tertiary period is associated in the student's mind with the gumma, and he is too apt to forget that there are several other forms in which the disease may appear at this period. Gummata may be cutaneous or sub-cutaneous, the latter being the best known. A swelling, varying in size, appears on the skin, which generally is slightly discoloured. Usually suspicions of its nature are aroused by a peculiar rounded softening in the centre, which gives to the palpating finger the sensation of feeling the empty mouth of a medicine bottle through some overlying substance. This breaks down, and we then have the typical gummatous sore.

Cutaneous gummata are naturally more superficial, the slough forms more rapidly, and is of course shallower. They are by far most common on the legs, especially about the knee, though they may occur at any part of the surface. Cutaneous gummata are very frequently multiple, appearing in groups, and in healing there is a degree and form of pigmentation which it is of the greatest value to be familiar with, not only in the diagnosis of other forms of skin eruption, but of any obscure ailment from which the patient may suffer. The pigmentation is considerable in amount, in colour it is a mixture of gray and brown, and the scar, which stands out white against the surrounding pigmentation, has a peculiar "scalloped" outline (see Plate XXX).

The late scaly syphilide is most frequently seen on the palm or sole. Usually it is unilateral in its distribution, and this is a great help in the diagnosis, for the eruption has often little to distinguish it from "eczema." That disease almost invariably attacks symmetrically, unless the patient's work is such that only one hand is irritated. Occasionally, syphilis attacks both palms, or both soles.

Another form of tertiary lesion is the ulcerating crusted syphilide. In this form, which may be very widespread, the surface is covered with evil-smelling



SYPHILIS (Tertiary).



crusts, beneath which an ulcer is concealed. These ulcers spread serpigiously, and often gives rise to very great destruction. It is in this form that the "horse-shoe" shape is most typically developed. It is most apt to occur in patients who have neglected the primary stage of the disease, and whose circumstances are unfavourable.

The next variety of tertiary eruption is that which for lack of a better term we call syphilitic lupus. It is very much to be regretted that there is no substitute name, because this one leads both to laxity in diagnosis, and to the confusion of the student. All that is meant by the use of the term "Lupus," is that the lesions resemble the apple-jelly nodules of that disease. As a rule they are redder in tinge; the syphilitic lesions are more vascular than those of tubercle. In my experience this is one of the latest manifestations of the disease. I have seen it appear as late as twenty-five years after the original attack, the patient having had no eruptions in the interval.

DIAGNOSIS.—In no disease of the skin is accuracy of diagnosis of such importance as in syphilis, and many a doctor has had bitter cause to regret having diagnosed it, when the patient was suffering from some other disease over the contracting of which he had no control. In the Lock departments of hospitals it is the local lesion which mainly comes under the student's notice, while in practice it is usually from the eruption, etc., that the diagnosis has to be made. History is of little value. Not only is the word of those who have contracted the disease in the usual way generally unreliable, but the disease is by no means infrequently accidentally acquired by the innocent, and so in a doubtful case the most intimate knowledge of the high character of a patient must not determine the observer to exclude syphilis. On the other hand some err in the other direction, and are too ready to label as syphilis any skin disease with which they are not familiar; and thus much family trouble, and sometimes considerable pecuniary loss to the doctor results. Syphilis should never be diagnosed from the skin eruption only. At the secondary period, hardening of the glands, especially those behind the sterno-mastoid and the supra-trochlear,



should be sought for, and the throat and mouth should be examined for ulceration and mucous patches. Redness of the fauces goes for nothing ; in syphilis there is distinct ulceration—the snail track—on the surface of the tonsil. Only when these are discovered is it wise to put definite questions as to the contracting of the disease. The characters of the eruption have already been referred to, but it is well to bear in mind that multiformity of the lesions is a very usual feature, and that papules in one place, vesicles in another, and crusts in a third, are more frequent in syphilis than in any other disease. In the later stages of the disease (gummata, ulcerating tuberculous syphilides, etc.) evidence of past disease in the shape of scars may nearly always be found. Their character has been already referred to, and may be seen in Plate XXX. The eruption in this case had lasted over fifteen years, and presents a papillomatous surface, not I think common. The shape and colouring of the scar are, however, extremely characteristic. The course of this case was very instructive. For years he had been treated with iodides with very little benefit. Under large doses of that drug, combined with the local application of mercury plaster, there was complete healing in a few weeks. While these scars may of course be found in any situation, they are very commonly found just below the knee. The "tip" of an old clinician that "scars in the neighbourhood of the knee are always syphilitic," is not far off the truth.

TREATMENT.—There are few diseases in which the treatment is in its main lines so simple as this. It seems incredible that there are still some who persist in treating it without mercury, for they practically allow the disease to run its course. Fortunately for the public they are now few. All the leading syphiligraphers of the world are united on this point, if on few others; that over which they chiefly differ, being the form in which the drug should be administered. There are three main methods, for the fumigation method has been practically abandoned. These three are, administration by the mouth, by subcutaneous injection, and by inunction. To these must be added the inhalation method, referred to on page 16. The first is the one which is most favoured in this country, and in most

cases it is quite satisfactory. Half a grain of grey powder made into a pill and given three times a day is a convenient form. So is calomel in suitable doses, and perhaps the most popular form in Edinburgh is the solution of the perchloride,  $\frac{1}{2}$  of a grain given three times a day. The red iodide has its followers, and indeed any of the salts may be given. Subcutaneous injection is largely used on the Continent. It has the merit of accurate dosage, and the patients are more under control. Many still use perchloride, and inject from  $\frac{1}{4}$  to  $\frac{1}{2}$  of a grain into the buttocks once every five, six, or seven days. The pain is not severe, and soon passes away, and, as may well be expected from the nature of the drug introduced, abscesses from organisms are practically unknown. Other forms are sometimes used; grey oil (a mixture of metallic mercury and oil), calomel, and albuminate of mercury. All have their advantages, and all have their disadvantages. The insoluble preparations are a little uncertain, their conversion into soluble ones and their consequent activity being beyond control.

Inunction is the most efficient, the most unpleasant, and the most uncleanly method. In any case where the symptoms are serious, and it is desirable to get the patient rapidly under the influence of mercury, inunction is the method to be followed. About a drachm of the ointment is rubbed into a different part of the body every night. The usual course is the front of the chest, sides of the chest, the groins, the upper arms, the thighs, and the legs. On the seventh day the patient is allowed to rest and bathe. The course usually lasts from three to six weeks. A somewhat more cleanly method of inunction is the use of mercury in soap. It is very easily used, attracts no attention, and is particularly suitable for commercial travellers and those who are unable to get treatment thoroughly carried out. I have more than once succeeded in dispelling late manifestations by simply directing the patient to wash his hands and feet alternately with mercury soap. The lather is of course to be rubbed in till dry. The Mercolint Bib is the simplest of all methods of treatment, and entails least trouble on the patient. Blaschko, who introduced it, says that it is of less value in recent cases, but such has not been my experience.

In the later stages the iodides have their place, though I fully share Prof. Whitla's views that "iodide relieves, but mercury cures," and I almost invariably prescribe them together. Every now and then one meets with patients who cannot take iodide, and certain suggestions for such cases will be useful. The combination with the iodide of "Pepsencia," prepared by Fairchild, has more than once been most successful in my hands, and the new preparation "Iodalbacid," prepared by Ganz, of Frankfurt, has sometimes proved more useful than the ordinary iodides. In many cases large doses of iodide are necessary before improvement sets in. Because a doubtful case does not improve on ten grains of iodide three times a day, it by no means follows that it is not syphilis. In gummata, and in the ulcerative forms of the disease, the local application of mercury is useful. Unna's mercurial plaster, or simple ungt. hydrarg. kept continuously applied to the part, hastens the cure. I have not seen so much benefit from this form of application in the non-ulcerated forms.

### TUBERCULOSIS.

The tubercle bacillus may reach the skin by more than one route, and according to this and the reaction of the individual patient to the germ, the appearances produced vary.

LUPUS VULGARIS may be regarded as the typical tuberculosis of the skin. It is by far the most common, and it is the chief in importance and gravity.

It presents many clinical varieties, all having in common the presence of the tubercle bacillus, along with those pathological changes which we are familiar with as characteristic of the reaction of the tissues to that organism, and differing according to various complicating and secondary changes.

It may be well to state here that I entirely separate the disease known as Lupus erythematosus from the disease under consideration. On this question there are three schools, one regarding the diseases as very closely allied, another regarding them as more or less indirectly related, and a third which looks on them as two totally distinct diseases. The arguments for and

against the different views will be found in the section dealing with *Lupus erythematosus*.

The simplest and the most typical form of *Lupus vulgaris* is that in which there are found in the skin those elements which are described as the "*apple-jelly*" or "*barley sugar*" nodules of Hutchinson. These are yellowish-brown areas about the size of a hemp seed; they may be found discrete, or they may run together to form irregular areas. They are evidently *in* the skin, and the epidermis runs unbroken over them. Their true colour is best displayed by pressing on them a piece

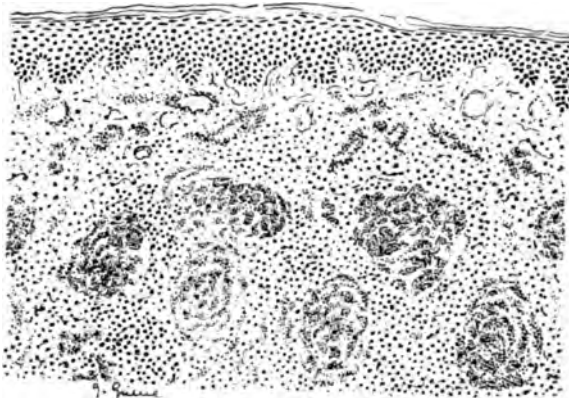


Fig. 39.—*Lupus vulgaris simplex*. The corium is studded with little collections of tuberculous follicles which make up the apple-jelly nodules. The vessels are dilated and the tissues between the nodules contain many leucocytes. The epithelium is slightly swollen and the horny layer is irregular.

of glass (a microscopic slide will do; I use the condensing lens of a Hartnack's microscope), for the pressure dispels any complicating hyperæmia, and no amount of pressure will cause the typical nodule to disappear. This method, which Unna calls the "diascopic," is of great value in the diagnosis of a doubtful case.

When examined microscopically, these nodules are found to consist of a collection of those cells which Unna calls plasma cells, and which are best known in this country as epithelioid. These are aggregated into little round areas, ten or a dozen of which go to make up a clinically visible "*apple-jelly*" nodule (Fig. 39). Occasionally a giant cell may be observed among them, and very occasionally a tubercle bacillus.

At this stage, which may conveniently be styled *Lupus vulgaris simplex*, the disease may remain in cleanly, healthy persons for an indefinite period, giving rise to no inconvenience except from its appearance, and spreading very slowly or not at all. Any part of the body may be affected, though, as afterwards referred to, lupus has its preferences and favourite seats. Plate XXXI is from a long-standing case of almost uncomplicated lupus. The brownish-yellow "apple-jelly" nodules stand out very prominently, and are as usual most numerous at the margin. In the scar area over which the disease has passed many still remain. This is the rule. Lupus always leaves traces of its presence in the scar.

The disease, however, only exceptionally follows this simple type. The most common complication, so common as to be, to most, the typical form of Lupus, is that of catarrh. Just as in catarrhal tuberculosis of the lung, the catarrh is due to the addition to the original disease of other organisms, so, in the skin, micrococci are responsible for the change which converts a mere disfigurement into a disagreeable, discharging eruption. The brownish-yellow nodules are concealed by dirty yellowish-black crusts, and pus constantly exudes from the apparently raw surface. This stage of the disease has long been known and described as *Lupus exulcerans*, but the examination of very many specimens has convinced me that the term is a misnomer. There is no ulceration in the true sense of the word. However ulcer-like the case may appear, careful examination will disclose the fact that the surface is still covered, imperfectly it is true, with epithelium. The epithelium is swollen, distorted almost beyond recognition, but it is still there. The process is essentially one of catarrh (Fig. 40). In sections appropriately stained, there are found on the surface myriads of cocci, and to the effects of these is due the purulent discharge and crusting. The true skin is packed with innumerable leucocytes, which in the majority of cases make it difficult to recognise the tuberculous nature of the disease. It is, indeed, often enough difficult in the leucocyte-impregnated tissues to recognize the same process as in the simple variety of the disease; but a



LUPUS VULGARIS.





few weeks' appropriate treatment, and the apparent discrepancy is cleared up: destroy the pyococci and the catarrh disappears, leaving the simple variety of the disease.

Another common variety of Lupus, which also has its analogy in the lung, is *fibroid* lupus, often erroneously called *Lupus verrucosus*. The error is curious and inexplicable, because there is a *Lupus verrucosus* which is distinctly "warty" in its character, though it is much rarer than the fibroid form. Fibroid lupus is most frequently seen on the limbs and buttocks. It is



Fig. 40.—Catarrhal Lupus. Leucocytes are present in such amount as to completely conceal the tuberculous structure. Traces of epithellum covered the whole surface, and the overlying crust teemed with micrococci:  $\times 50$ .

exceptional on the face; in the only case I have seen in that situation, the diagnosis was so doubtful that I recommended its excision by a surgeon, on the suspicion that the disease was malignant. In it there is an excessive production of fibrous tissue, and the tuberculous nodules are few in number. They also show evidence of their chronicity in the presence of (for Lupus) an excessive number of giant cells. There is also some evidence of increased activity of the epithelium, but as shown in Fig. 41, there is no true warty formation. The prognosis of this form is exceptionally good.

True warty lupus, *Lupus verrucosus*, is probably due to the addition to the Lupus of the cause, whatever it

may be, which produces warts. It occurs especially on the hands and on the buttocks. The same growth of epithelium is seen as in warts, with long processes of connective-tissue-forming cores for the epidermic cylinders. As a rule the warty growth and the lupus are co-extensive, but in one case of mine, in some of the spots, the warts lasted longer than the tuberculosis.



Fig. 41.—Fibroid Lupus. Dense connective tissue. The tuberculous areas contain numerous giant cells, and the surface epithelium is as usual increased in amount.  $\times 75$

VERUCCA NECROGENICA, OR THE POST MORTEM WART, is that form of tuberculosis of the skin, which appears on the hands of butchers and pathologists, and it would seem a matter which will require a good deal of explaining away if Koch's new theory is to be accepted. It is the most benign form of tuberculosis, and indicates the vigorous reaction of healthy tissues to repeated inoculation with the bacilli. A great part of the growth is epithelial, as the name suggests, but there is also a good deal of fibrous thickening. It is commonly situated at the side of the nail, and may persist for years, undergoing very little alteration.

The treatment is that of the warty form of lupus, but if a complete cure is to be attained, the work which caused the lesion must be abandoned for a time.

Lupus is most common on the face, and in a great number of instances it begins on the mucous membrane of the nose or the lachrymal canal, and lurks there unsuspected perhaps for months before it reaches the

skin. Probably the next commonest seat is the buttocks, and then come the hands, feet and limbs. No part of the body is however exempt, unless it be the scalp, where primary lupus is almost unknown, though the disease in rare instances spreads from neighbouring affected areas. It is believed that in some instances flies are responsible for the inoculation of the disease.

DIAGNOSIS.—This is usually easy. Almost always at some part of the disease the presence of "apple-jelly" nodules can be detected, and the diagnosis is never absolutely certain until these have been recognized. Not infrequently, however, they are obscured by some of the complicating processes. The catarrhal process very rarely conceals them entirely, for it usually affects the borders, where these nodules are most numerous, less than the centre. But in the warty and in the fibroid form of the disease they are often exceedingly difficult to recognize. In all cases the use of the diascopic method is to be strongly recommended.

In addition to direct observation, a good deal of useful information can be got from the history. It is not likely that a patch of eczema, or, indeed, of any other inflammation of the skin than a tuberculous one, would last for eight or nine years, as these cases frequently do, and suspicions of a tuberculous nature being aroused, careful examination will usually lead to their confirmation. The greatest difficulty in connection with diagnosis is when a chronic ulcer occurs on the face of a patient of middle age. There are two diseases which may be confused with tuberculosis under such circumstances. These are syphilis and rodent ulcer. There are certain differences between each, but these differences must be estimated as a whole and together; too much stress must not be laid on individual ones. Tuberculosis is most apt to commence in youth, syphilis and rodent ulcer toward middle age. The rate of progress is slow in tuberculosis, rapid in syphilis, and slow again in rodent. There is nothing very characteristic in the syphilitic ulcer, but the apple-jelly nodule of lupus and the pearly edge of rodent ulcer are each almost pathognomonic. Rodent ulcer is nearly always single, tubercle in this situation very often so; if carefully sought for, some other sign

of syphilis will almost always be found. If dependence is to be placed on the effects of treatment as a means of diagnosis between syphilis and tuberculosis, the trial must be a thorough one, and judgment should not be entered on the results of one bottle of iodide of potassium mixture.

There is one routine examination which should never be omitted. No case of lupus of the face should ever be allowed to go with the mucous membrane of the nose and the gums unexamined. The proportion of cases in which the gum is affected is enormous, and the proportion of cases in which its occurrence is overlooked, lamentable. Lupus of the mucous membrane naturally looks different from the disease in the skin, first, on account of the redness of the surrounding tissue, and second, because of the moist condition in which it is constantly kept. The nodules are usually a little elevated above the surface, and the whole area has an embossed appearance like shagreen leather. The disease gives rise in this situation to little inconvenience, and patients are frequently unaware of its existence.

PROGNOSIS.—This is by no means easy. Cases which are left to nature usually occur in the lower classes, where the added disadvantages of insufficient care, food, etc., must be taken into account. If a simple case of lupus were left to itself, and the parts kept clean, and if the patient happened to be in good circumstances, the natural course would be for the disease to extend very slowly though steadily. Any disturbance of health would always involve the risk of the catarrhal complication, with disfigurement and more rapid extension of the disease. On the other hand, cases are sometimes immensely improved by a simple change of residence to a more healthy locality, where the patient, usually a child, has the opportunity of being much in the fresh air. Indeed, it is unnecessary to waste words on this question. The prognosis of lupus is exactly the same as that of tuberculosis generally. When it is catarrhal, progress will be rapid; when it is fibroid, advance is slow. When treatment is taken into account in the prognosis, we are still by no means certain of our ground. In the first place all these other

factors, such as the health of the patient, the surroundings, etc., have to be taken into consideration. When that is done we can consider the bearing of treatment directly and alone, and it must be most clearly understood by the patient that if he desires to get completely rid of his disease, which it is quite possible for him to do, he must submit to a prolonged course of treatment. The perfunctory surgical treatment of lupus, scraping a case and then not seeing it again for six months, has no prognosis; but if the case be carefully attended to after such an operation the chances are by no means bad. The fibroid variety of the disease has the best prognosis, (cases on the limbs often recovering without any treatment), while the catarrhal form has the worst.

TREATMENT.—In dwelling so definitely on the varieties of the disease, and pointing out the essential differences of one from the other, my object was to make it clear that the treatment of all is not alike. Obviously the same treatment is not applicable to a case scabbed and discharging, as to a hard, fibroid patch. The object of treatment is to reduce the complicated to the simple form, and then to treat the disease directly. This involves a separate consideration of the different varieties. After they have been dealt with, the treatment of lupus as a whole will be considered.

CATARRHAL LUPUS.—This, as the commonest form of the disease, may be taken first. As already pointed out, this catarrh is due to the presence of micro-organisms and their products, and these must be got rid of. Though there are many methods, the simplest and most efficacious is the sharp spoon. It removes diseased tissues and organisms *en masse*, and will do in ten minutes what less active treatment will take weeks to accomplish. In using the sharp spoon in this way it is not necessary to use much force. The catarrhal tissues are exceedingly soft and rotten, and can be removed with the greatest of ease. At the edge of the patch the spoon may be used a little more vigorously, but at this stage one cannot really hope to eradicate the disease by any amount of scraping.

If for any reason the patient objects to the operative treatment, a similar result may be achieved, though

much more slowly, by the application of antiseptics.  
Brooke's ointment

R	Zinci Oxidi	
	Pulv. Amyli	aa ʒij
	Vasellini Albi	ʒss
	Hydrarg. Oleat. (5 %)	ʒj
	Ac. Salicyl.	grs. xx
	Ichthyol	ʒxx
	Ol. Lavendulæ	q.s.

enjoys a wide reputation in this connection, but any antiseptic constantly applied will produce almost as good results, as will also the administration of thyroid substance.

**FIBROID LUPUS.**—Here the complication is the excessive growth of fibrous tissue, which must be got rid of before it is possible to attack the lupus directly. Scraping is useless. No surgeon with any ordinary instrument is vigorous enough to scrape away the tough fibrous tissue. The best method by which it can be dissipated is by repeated counter-irritation. Probably blistering fluid is as suitable an application as any other, but carbolic acid, the acid nitrate of mercury, and other caustics, may also be used. The reaction often does more than dissipate the fibrous thickening, for a large amount of the disease proper is also removed, and what is left is now open to direct treatment.

**WARTY LUPUS.**—In this, as already indicated, the warts are to be looked upon rather as an addition than as a complication. They are best removed by the knife or scissors, although they may also be removed by various applications, such as acetic or salicylic acid. If they are present over a large surface, the best treatment is to level the part with a razor.

**LUPUS VULGARIS SIMPLEX.**—In dealing with the simple form of the disease (whether it has always been simple or has been reduced to this from another form) our aim is the destruction of the tubercle bacillus. The first method of treatment which may be considered is that of excision. Theoretically, excision is the best method; but, unfortunately, the practical application does not coincide with the theory. Lang, of Vienna, apparently treats all his cases, however severe or extensive, by this method, but he seems to attain a degree of success which is not even distantly approached



by any other operator. I have repeatedly seen cases aggravated by excision, the disease returning in the scars or grafts, often apparently with redoubled activity. The only form of the disease in which excision seems to me justifiable is the fibroid form, and in that the prognosis is so generally good that, unless in special circumstances, it is rarely, in my opinion, necessary. If excision is to be done, *it must be thorough*. The line must extend well beyond the external evidence of the disease, and the entire thickness of skin must be removed from the part. If it occurs on the face, the fact that the hair follicles often extend very deeply must be borne in mind.

The next method of treatment may be described as the directly destructive method. In this we apply to the skin drugs which have what is called a selective action, because they act very much more vigorously on the weakened, diseased lupus tissue than on the healthy surroundings. This action is best demonstrated by the use of arsenious acid. This is made into a paste—

R.	Acidi Arseniosi	grs. x
	Cinnabar	ʒss
	Ung. Rosæ	ʒss

and applied night and morning for three days. The pain is excessive, and it is often necessary to administer morphine. The whole region swells up, often to an alarming extent, and at the end of the third day the lupus nodules are seen as little black sloughs, dotted here and there in an intensely hyperæmic, swollen skin. These are thrown off, and under soothing remedies the swelling subsides. Nicholson recommends a paste of equal parts of arsenious acid, powdered acacia, and orthoform, the last ingredient almost annulling the pain of the arsenic. The disadvantages of the method are, the pain and swelling which it causes, and the unsightly scars which often result, unless very great care is bestowed on the management of the resulting granulating surface. Salicylic acid has a similar action. In no form is it so efficacious as in Unna's salicylic creasote plaster. Ointments with a similar composition are not nearly so satisfactory, and the plasters should always be



preferred. They are made in different strengths, and the strongest which the patient can stand should be selected. The 30 40 formula, is a fair average one. The plaster should be applied night and morning, and in a few days the lupus nodules stand out in the form of whitish sloughs, which can be wiped away with cotton wool. Now comes up the question of what is to be the further treatment. Many at this stage apply soothing ointments, as in the arsenical method, but if the patient has the fortitude to persevere in the use of the plaster until healing take place under it, the results are much more thorough, lasting, and satisfactory. Often, however, the pain is so great that he refuses to continue, and some other application must be used. Nothing is gained by promoting too rapid healing of the ulcers of the skin. Indeed, the longer the part is kept open and discharging, the longer does the benefit seem to last. Dry iodoform or a pretty strong iodoform ointment may be rubbed into the part; probably the iodoform destroys some of the bacilli which still persist. By several courses of this plaster the nodules may be so reduced in number as to be open to individual treatment. They may similarly be reduced in number by another less painful method, *viz.*, the very thorough application of oleate of mercury. The formula recommended by Allan Jamieson is :-

R	Hydrarg. Oleat. 5ʒ.	5j
	Ichthyol	℥xx
	Acidi Salicyl.	gr. xx

This must be thoroughly rubbed into the part for at least twenty minutes every night, and ten minutes every morning. The results are usually very satisfactory. When by one or other of these means the nodules have been reduced to a manageable number, methods such as the thermo-cautery are applicable. The ordinary Pacquelin point is too broad to be of any benefit at this stage. The point must be so fine as to enable one to pierce the individual nodules, and the best instrument for this purpose is Unna's "micro-brenner," in which a copper point is fused on to the end of the platinum. With this any visible nodule is pierced and immediately destroyed. The galvano-cautery is

more useful, mainly, I believe, because the burn is followed by a greater amount of reaction than that of the thermo-cautery, but it is of course not always available. Another and a simpler method is the puncture of each nodule by a pointed wooden match dipped in some caustic. The favourite caustic for this purpose is the acid nitrate of mercury, and the simplicity of the method is a strong recommendation. The operation must be repeated and repeated until every single nodule has disappeared, and only then should the patient be released from observation, with orders to report himself at the first sign of recurrence. The fact that this preparation loses its strength when kept must be borne in mind, and the fresh preparation should be used with great caution, for it often produces a serious amount of destruction.

The disease may also be attacked indirectly. Probably the two methods, the direct and indirect, are always more or less combined, though the one usually predominates over the other. The indirect method aims at setting up such a reactionary hyperæmia in the skin that the tuberculous material is destroyed indirectly.

When the disease affects the limbs the congestive method of Bier may be tried. This consists in applying a ligature so as to produce prolonged congestion of the part, and it is sometimes as useful in lupus as it is in tuberculosis of the joints.

More commonly the reaction is produced by the application of some irritant. I look upon the action of carbolic acid as almost entirely indirect. The slough produced by its destructive action is so superficial that it notoriously leaves hardly any scar, and, therefore, its chance of penetrating down to the diseased nodules is very small indeed. It sets up, however, a considerable reaction, and under its application the nodules grow less in number and size. The acid nitrate of mercury may be used in the same way. Kaposi uses a solid stick of nitrate of silver, ploughing furrows in every direction through the disease. This method is only available in the catarrhal form, in which other means of treatment are preferable.

The *Liquor antimonii chloridi* is another valuable

application. It does not produce such severe immediate results, but after it has been painted on daily for a few days, the part generally becomes so tender that it must be intermitted for a time. I do not know any better application to entrust to the hands of a patient of only ordinary common-sense than the liquor antimonii chloridi, and it has the further advantage that it may be applied to the fibroid form, and thus remove both the complication and the disease at once. Pyrogallol is another useful remedy. It is best used in the form of a ten per cent. ointment, which should be continuously applied. It sets up a considerable reaction, but as the effects of that are beneficial, it should not be stopped on that account. It may also be applied in collodion, but the results are not nearly so satisfactory.

In the selection of any of these methods one must be guided by a variety of considerations. The cosmetic effect is one of the most important. If the disease is on the face of a girl, one is bound to be more considerate of the resulting appearances than in the case of a male. In a working man, vigorous scraping with the sharp spoon may be used. While this often results in somewhat unsightly hypertrophic scars, the rapid removal of the disease is in such cases of most importance. In the case of a girl the spoon should only be used lightly, and should be directed to the removal of the diseased products rather than to the removal of the disease itself. Arsenious acid, too, though thorough, is often followed by unsightly scars, and should not be used when appearances have to be considered.

The applications which give the best cosmetic results, are salicylic acid, liquor antimonii chloridi, and pyrogallol, probably in the order named. If the disease is very extensive, of course the possibility of the absorption of any drug must be considered, as must the painful effects which they each produce. In such a case, probably antimony is as good as any other treatment, different parts being painted in succession. In children, the element of pain must be taken into account. It is obviously absurd to expect a child to endure the constant boring pain of salicylic acid and some of the other preparations, and I believe, speaking generally, that

the best application is carbolic acid. The pain is severe for the moment, but rapidly vanishes, and even though it may not be the most suitable application to the form of the disease, the fact that a patient is behind that, must, as Mr. Morris sagely remarks, never be forgotten.

Lupus of the mucous membranes is best treated by the application of strong lactic acid, the part being painted daily, or less frequently if the pain experienced is very severe. Improvement is usually obvious and rapid.

PHOTO-THERAPY.—The two methods of Photo-therapy are not very easily compared with the older methods of treatment. In the first place, they involve an apparatus of considerable expense, and are therefore only likely to be used by those who have a considerable number of cases to treat.

The one with which I have most practical experience is the X-ray method. The dermatitis set up by exposure to the rays has already been referred to, and it was to this irritative effect that the benefit which resulted was originally ascribed. Experience, however, has shown that over and above their irritant effects, the rays have a directly curative influence. Often enough under their use, without any evidence of irritation, beyond, it may be, a greater tendency to scaling, improvement steadily goes on. The catarrhal complications vanish. The skin becomes smooth, and the nodules diminish in number until each one may be identified.

While the rays may be used in any case of lupus, the unaffected parts being protected by lead-foil, they are of special value in widespread cases, for their effects reach far beyond the area of skin directly exposed to them. In circumscribed patches, where the healthy surrounding parts are covered with lead-foil, no great harm is done if irritation is produced, and such cases may be exposed for five minutes daily until the case is cured. If the reaction is excessive, then an interval of rest is desirable. In widespread cases, such as those affecting the whole face, greater caution is essential. The patient should be exposed, once only, for ten minutes to the rays, and several days should then be allowed to elapse so as to gauge his susceptibility. If there is no reaction, then daily exposures may be com-

menced. If there is reaction, then the intervals between the exposures must be lengthened, and the time of exposure shortened. In those extensive cases affecting half or the whole of the face, no method of treatment can approach the X-rays in efficiency. For details of the method, see page 32.

The other (Finsen's) method of treatment, the application of concentrated light, is more tedious, and was until recently enormously more expensive, so

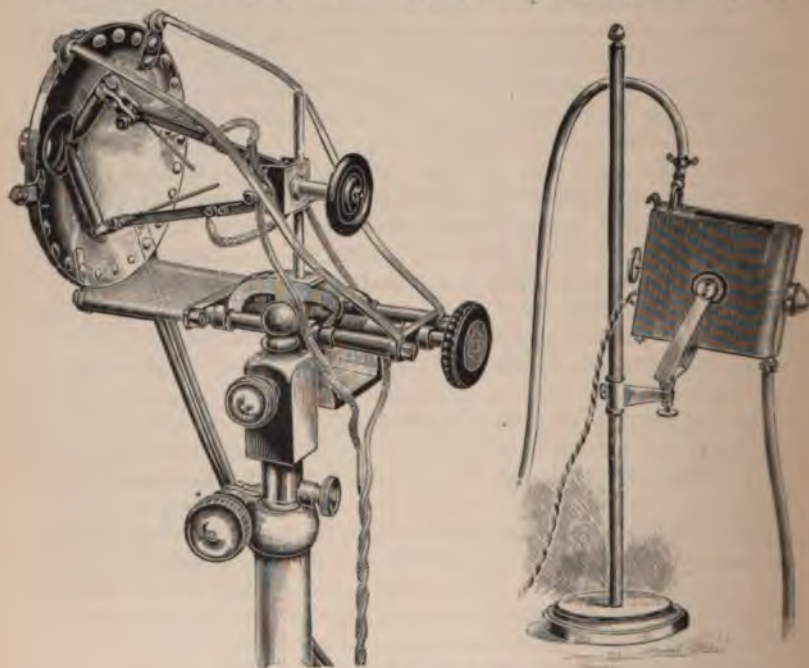


Fig. 42.—Lamp for Finsen Treatment.

expensive as to place it beyond the reach of any but wealthy hospitals. Recently, many new and practical modifications of the method have been introduced, and now a working Finsen apparatus can be procured at a cost less than that of a good coil. I am enabled to append illustrations of two forms of the apparatus. It consists of a small arc lamp, guarded by a water jacket. The apparatus is very rigidly mounted, and

the patient leans heavily against the lens, through which the rays pass to the part which it is intended to treat. The object of this pressure is to dispel the hyperæmia of the part, for the rays only penetrate red with difficulty, and the greater the pressure, the more anæmic the part is rendered, the greater is the reaction and the after improvement.

With this modified apparatus exposures of a quarter of an hour's duration produce a reaction, over an area four times the size, in a quarter of the time requisite with Finsen's original apparatus, in which the lenses were very small. On the next day a blister appears upon the surface, which may be dressed with any simple ointment, and allowed to heal up while other parts are being attacked. In this way the whole affected surface is repeatedly treated, from five to eight of such circuits being usually necessary to complete a cure.

Both these methods are followed by extremely satisfactory scars, scars infinitely superior to those produced by any other method of treatment.

Their use does not prevent the simultaneous application of other remedies, and particularly, when the nodules are greatly reduced in number, they may be individually destroyed more easily and more rapidly by some of the simpler methods already referred to. It will indeed be matter for regret if the perfectly just criticism of the reckless abuse of Photo-therapeutic measures should prejudice the adoption of such a valuable method of treatment. There are many cases of Lupus which are better treated by salicylic plaster than by photo-therapy, and only harm can result from their wholesale treatment by one method only, by those who have no experience in the effects of others.

INTERNAL TREATMENT.—There is no specific for Lupus any more than for tuberculosis in general. The only medicine which it is usually advisable to prescribe is cod-liver oil, which by improving the general condition of the patient enables him more successfully to combat the ravages of the bacillus. Thyroid has already been alluded to. It certainly dissipates the catarrhal products, but has little further influence. Creasote, arsenic, chloride of calcium, and other drugs which have been recommended at one



time or another, have, so far as I can see, not the slightest influence on the disease. I have, I think, seen as much benefit from the administration of urea (gr. x thrice daily), as from any other internal remedy.

There are one or two other forms of tuberculosis of the skin which are not included under "Lupus."

SCROFULODERMA\* is the term used to describe those cases of tuberculosis of the skin where the infection proceeds from a tuberculous focus beneath. Thus it is most common over broken-down tuberculous glands, and in the neighbourhood of fistulæ from tuberculous bones. The appearances are familiar enough. The reddened skin, often with a bluish tinge, the thin ragged edges, the comparatively scanty discharge, and the tendency to fibroid thickening in the neighbourhood, coupled with the chronic course of the disease, make up a picture which is easily enough recognized. The infection of the skin is, however, usually of secondary importance. The under-lying disease is the essential element, and on its cure depends the progress of the skin malady. Sometimes the infection develops into true Lupus, which may persist after the under-lying disease has disappeared, but as a rule the cure of the one is associated with the cure of the other.

TREATMENT.—This really belongs to the surgeon. The case should be taken in hand by him long before there is any risk of infection of the skin, and with the improved modern methods of dealing with tuberculous glands, the disfiguring scrofulodermata of the neck are gradually becoming less and less frequent. When the skin is infected, and the focus beneath is comparatively small, a thorough scraping will in many cases successfully eradicate the disease. Scraping in Scrofuloderma is followed by a success which does not follow it in the treatment of Lupus. But it is well to recall once more what has already been said, that these cases are in the province of the surgeon, and if the medical attendant is not prepared to take them thoroughly in hand and treat them radically, he ought to hand them over to some one who is. Dermatology has

\* From *scrofa*—a sow; and *dërma*—the skin. Scrofulous glands on the neck were supposed to make the neck thick, like a pig's.



suffered somewhat in repute from the tendency of certain of its exponents to trifle with some of its serious diseases.

The other forms of tuberculosis are rarer, and hide their identity and nature under other names.

ERYTHEMA INDURATUM SCROFULOSORUM, or **BAZIN'S DISEASE**, is an affection which occurs most frequently in girls and young women whose occupation involves a great deal of standing. It attacks the legs only, usually the lower part of the calf, posteriorly. One or more nodules develop below the skin, which takes on a livid bluish colour. The nodule increases in size and ultimately its centre breaks down; a slough

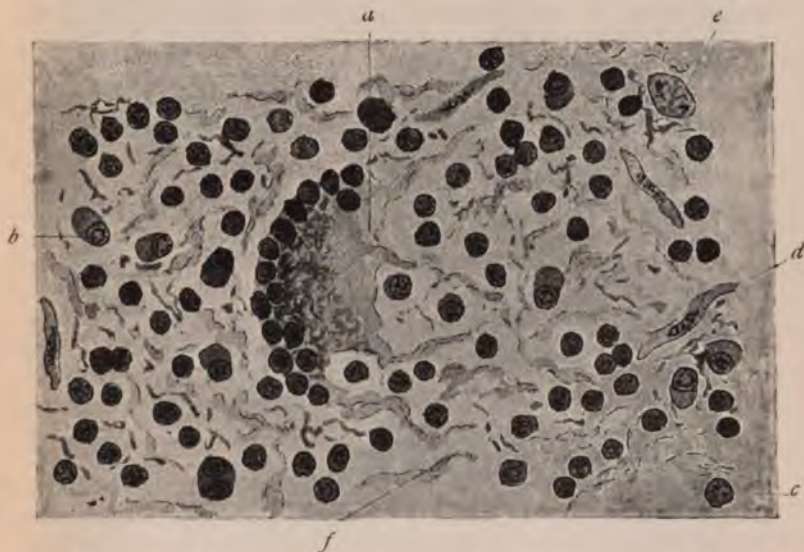


Fig. 43.—"Scrofulous Gumma." Semi-diagrammatic. Shows two tubercle bacilli in an imperfect giant cell (a); plasma cell (b); daughter plasma cell (c); connective tissue cells (d e); oedematous stroma (f).  $\times 1000$ . By permission of Dr. J. M. H. Macleod.

separates, and the clinical resemblance to a syphilitic gumma becomes very close. An erroneous diagnosis is made. The patient is put to bed. Large doses of iodide of potassium are administered, and the patient has the advantage of rest and the hospital diet. When recovery takes place, the credit is attributed to the

accuracy of the diagnosis, and the suitability of the treatment prescribed, whereas the patients do equally well if the iodide of potassium is omitted.

ETIOLOGY.—Some observers are sceptical of the tuberculous nature of this malady, but bacilli have more than once been found; inoculation experiments have several times been successful; the architecture of the growths is that of tuberculosis, and the positive evidence far outweighs the negative. Through the kindness of Dr. J. M. H. Macleod, I am enabled to give an illustration of a section from an excised nodule (Fig. 43).

According to Whitfield, two conditions are confused under this name, one a tuberculosis, and the other a condition of vascular origin. This latter form occurs, he says, in later life, and is associated with Phlebitis, and some endothelial proliferation. This second group of cases is very much more amenable to treatment, and often a week's rest is sufficient to clear up all the lesions.

Plates XXXII and XXXIII give a good idea of the appearance of the lesions. Plate XXXII is from a case of my own, a little girl of eleven. The discipline of her school entailed prolonged standing, which no doubt was responsible for the outbreak of the disease. Plate XXXIII illustrates the case of a young lady aged twenty, whom I saw in consultation with my friend Dr. Doughty, of Dalston. It is of special interest as it is one of the few published cases where pulmonary tuberculosis (with numerous bacilli) was also present.

DIAGNOSIS.—The seat of the disease, the age of the patient, the history of prolonged standing, and the peculiar livid blue colour of the early lesions, make the diagnosis comparatively easy. The only condition with which it can be confused is the syphilitic gumma, and tertiary symptoms in young girls are at least very exceptional. Erythema Nodosum, which is also common in young girls, develops much more rapidly; the lesions are both painful and tender, and they are generally more numerous, and are situated towards the front of the leg, whereas those of Erythema Induratum occur on the back and sides.

*PLATE XXXII*



ERYTHEMA INDURATUM.



originally introduced by Hebra, which consists in the internal administration and the external application of cod-liver oil.

### · BLASTO-MYCETIC DERMATITIS.

(βλαστος, *a sprout* ; μύκης, *a fungus*.)

In the first edition of this book I mentioned as a rare form of tuberculosis, a papillomatous variety, of which two or three instances had come under my notice. In the last three years similar cases have been observed, especially in America, and have been investigated by, among others, Gilchrist, Hyde, Montgomery, and Ricketts, with the result that it is necessary to separate from tuberculosis what is now described as Blastomycetic Dermatitis, or Blasto-Mycosis.

The disease is a chronic inflammation, and presents certain resemblances to tuberculosis and syphilis, with which it has no doubt hitherto been confused. The affected part is covered with a number of little papillomatous, knob-like elevations, from between which exudes a certain amount of pus. This area is surrounded by an inflammatory halo which gradually fades away into the healthy skin, and is graphically described by Hyde as a bluish red, sloping border. If this is closely examined with a lens, numerous pin-point abscesses may be noticed, dotted here and there over the surface. Over twenty cases have now been recorded, and from the accounts of these we learn that the lesions were usually multiple, and that a remarkable number of the patients have been concerned with the handling of straw or grain. In only three of the cases was there any history of tuberculosis, and in none of them was there any history of syphilis.

The nature of the disease has been investigated, especially by Gilchrist, Hektoen, Ricketts and others, who have successfully cultivated in considerably over half the cases, a yeast fungus, which when inoculated into animals showed pronounced pathogenic effects. As a rule the exposed parts were affected, the face being involved in nearly half the cases, a striking contrast to the warty form of tuberculosis.

PROGNOSIS.—This is not altogether favourable. In two instances death has occurred, and in others amputation has been necessary, while in the majority only improvement is recorded.

DIAGNOSIS.—From syphilitic ulcerations the diagnosis is not very difficult. The character of the lesions, the absence of any other evidence of that disease, and the more deliberate progress, serve to separate it from that malady.

From tuberculosis, which it somewhat resembles, it is best distinguished by the presence of the sloping border already alluded to. In tuberculosis the disease is usually most active at the margin. In Blastomycosis the greatest pathological changes are in the centre. It is also the fact that Blastomycosis is much more frequently multiple than the chronic variety of tuberculosis.

TREATMENT.—In most cases surgical interference similar to that used in tuberculosis is indicated. The parts may be scraped, or be treated by salicylic acid or other suitable caustics. Most benefit, however, is derived from the administration of large doses of iodide of potassium, a fact which has no doubt added to the confusion of certain cases with syphilis. There is, however, this distinction, that while the syphilitic lesions clear up entirely under that remedy, those of this malady, though they greatly improve, do not completely disappear.

## LUPUS ERYTHEMATOSUS.

(ERYTHEMA CENTRIFUGUM, ULERYTHEMA CENTRIFUGUM, SEBORRHŒA CONGESTIVA, "BATSWING" OR "BUTTERFLY" LUPUS.)

This disease has many names, and each of them is more or less unsuitable. The use of the term Lupus has led to its confusion with tuberculosis, while none of the other names are altogether descriptive. Probably the best is the one suggested by Unna, of Ulerythema, from *ὄλη* a scar; since erythema, scarring, and centrifugal spread, are prominent characteristics of the disease. In the enormous majority of cases (probably

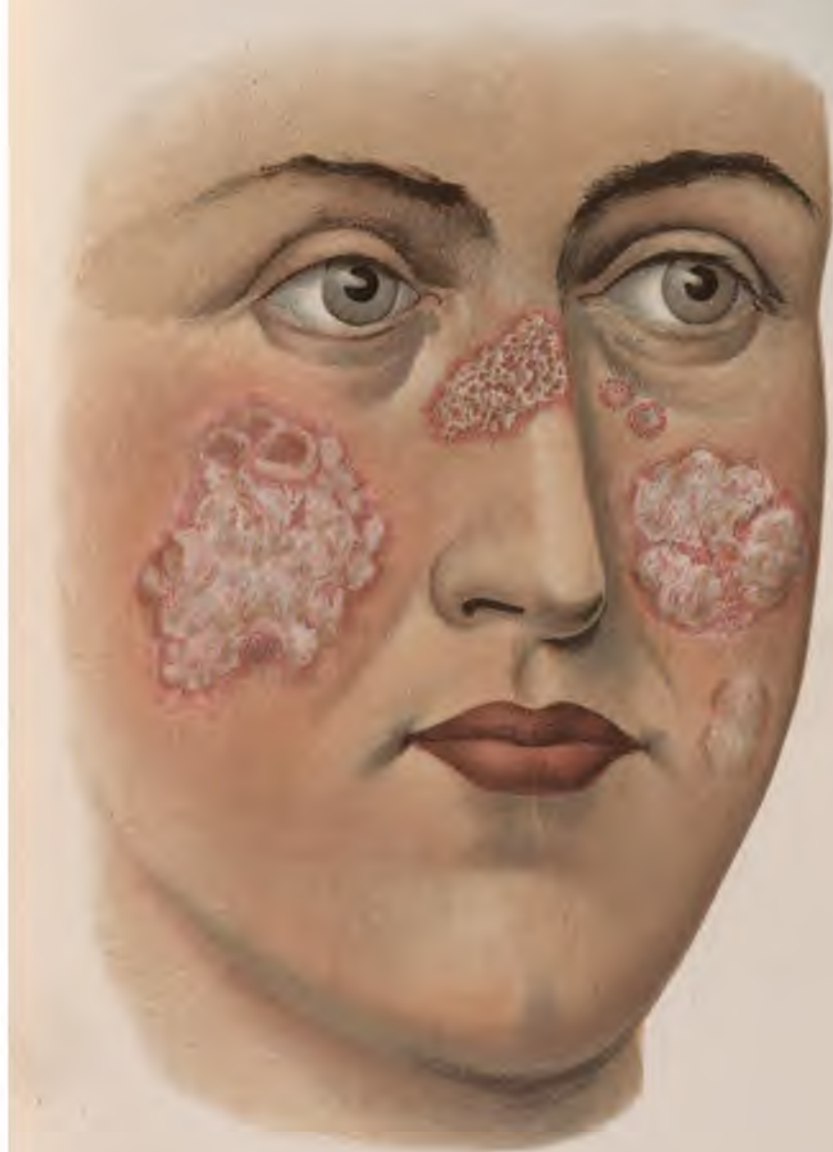
80 per cent.), the disease affects a certain limited area, the nose, cheeks, and ears. When present in its most typical form, the resemblance to a butterfly, the disease on the nose forming the body, and that on the cheeks the wings of the insect, is very marked. The other situations on which it is commonly found are the hands and the scalp. It is quite exceptional on the trunk and limbs.

The disease appears in several forms, some of them so rare that they need only be briefly alluded to. The rarest form is the generalised one, where the whole surface of the body may be affected, and where a fatal termination is not infrequent. Another rare variety is the teleangiectatic, where there is comparatively little surface disturbance, but where the skin is intensely reddened from the dilatation of the capillaries, and quite a distinct white scar is left.

The two forms in which the disease commonly occurs may be described as the erythematous and the sebaceous varieties. A case may be entirely or mainly of one variety, or it may be mixed. The erythematous type is characterised by the development of one or more rounded, raised, reddened patches, which enlarge, flatten in the centre, and sometimes closely resemble ringworm. They usually disappear in the course of three or four months, and the scar which is left varies in depth, sometimes being scarcely perceptible. This form of the disease occurs on the face, and is almost the only one seen on the hands. The border of the lesions often has a curious "stippled" appearance which is shown in the accompanying plate (Plate XXXIV). This Plate is taken from the case of a girl aged nineteen. On the right cheek, at the upper part of the patch, is shown the erythematous form of the disease, and, at the lower border of both the larger patches on the cheeks, the "stippled" appearance referred to. The centres and the smaller patch on the left cheek show the fine white scar which is left by the disease. On the nose, and on the two small patches beneath the left eye, the sebaceous or scaly form of the disease is shown. This patient is now quite well, and the scars are hardly detectable.

On the fingers the disease is always of the erythe-

*PLATE XXXIV.*



LUPUS ERYTHEMATOSUS.

HARRISON & SONS, LONDON.





matous type. The lesions closely resemble those of chilblain, and are often only distinguishable from these by the fact that they leave behind them a certain amount of scarring, which scarring often nearly disappears with time.

The sebaceous form of the disease appears on the face, ears and scalp. The first evidence of its appearance is a slight redness, and the mouths of the sebaceous glands are more prominent than normal, hence it was described by Hebra under the name of *Seborrhœa congestiva*. Very soon a little scale forms upon the surface, and if this is removed there may be seen dependent from its under surface little stalactite-like processes, which have been dragged, some of them from depressions in the horny layer, some of them from the mouths of the sebaceous glands. As the disease spreads, the centre undergoes atrophy, and more or less scarring results. The scales on the surface are of a peculiar greyish, mortar-like character, quite different from those of seborrhœa.

On the scalp, where the sebaceous or scaly type of the disease is the only one observed (*vide* Frontispiece), the area affected is irregular in shape, the centre is scarred, and feels firm, while the border is somewhat raised, carries scales on its surface, and often shows, here and there, the "stippled" appearance already referred to. The part is nearly but not quite completely bald.

There are no marked subjective symptoms; some patients complain of slight itching and burning.

PROGNOSIS.—The course of the disease is curiously erratic. While some cases get well spontaneously, other cases persist in spite of treatment for years; but except in the disseminate form, the disease does not threaten life.

ETIOLOGY.—In my first edition this disease appeared, as in Unna's classification, under the heading of retrogressive changes—atrophy after previous inflammation. Without criticising his arrangement, I think it must be admitted that we do not yet know enough of the nature of the disease to definitely locate it, and it presents certain features in common with the granulomata; viz., an active stage followed by a retrogressive one terminating in a scar.

For a long time the disease was confused with Lupus vulgaris, and there are even yet some who are unable to recognise any important distinction between the two diseases. These, however, are only few in number, but the point still warmly debated is whether, although Lupus erythematosus is not tuberculosis of the skin, it is nevertheless tuberculous, *i.e.*, an affection brought about indirectly by tuberculosis.

The arguments used are that certain patients are markedly tuberculous, that others have afterwards become so, and the thick and thin supporters of this theory assume in every instance the presence of some hidden tuberculous focus, where are manufactured the toxins which produce the disease. Since patients do not die of Lupus erythematosus, it is not possible always to decide the question on the *post mortem* table, but the Vienna experience of several cases which have died from other diseases, and where on a careful search no tuberculosis could be found, are in my opinion sufficient proof that all cases of Lupus erythematosus are not due to tuberculosis, and if all are not, then the whole argument is fallacious.

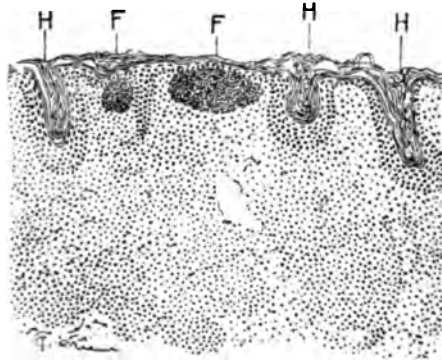


Fig 44. Lupus erythematosus. The corium is dropsical and packed with cells; masses of coagulated fibrin are shown at F, and at H are seen the horsey plugs which are evident clinically on the under surface of the scales. stained with acid orcein and hematoxylin.  $\times 50$ .

There are numerous facts of interest which may be noted by anyone observing a large number of cases. It is commonest in the colder countries, and generally improves during the warmer months. It is much

more prevalent in the female than in the male sex, and there is in an enormous proportion of cases a history of the occurrence of chilblains; indeed on the fingers the two conditions are often indistinguishable.

Organisms have been sought for repeatedly in vain, but that is not sufficient evidence that they do not exist. Inoculation experiments have hitherto been attended by negative results, but nevertheless it seems most likely that lupus erythematosus is due to some organism which still remains to be discovered, while the influence of cold as a predisposing factor must be recognised.

**HISTOLOGY.**—The examination of sections does not give much help with regard to the etiology. The appearances are shown in the two annexed figures. In Fig. 44, a low-power drawing of a section from a patch on the cheek, the epidermis is seen to be extraordinarily thin, the corium beneath is œdematous and packed with cells, and, if appropriately stained,

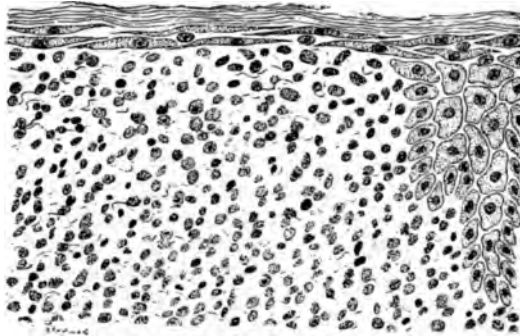


Fig. 45. Lupus erythematosus, shows the exceedingly thin epidermis and the dropsical corium, packed with leucocytes and young connective tissue cells;  $\times 350$ .

bundles of coagulated fibrin are found here and there through it. According to Holder, the substance taking the stain is not fibrin, neither is it elastin as Unna suggests, but a peculiar degeneration of the connective tissue which he compares to coagulative necrosis. The horny layer is somewhat thickened, and the plugs which are evident on the under surface of removed scales are seen dipping downwards. In the high-power drawing (Fig. 45), some of these changes

—the extraordinary thinness of the epidermic layer and the cells in the corium, which are of two kinds, leucocytes and proliferative connective tissue cells—are more easily seen. This section illustrates very well the comparison made by Unna, with a morass, the surface apparently firm, the deeper parts treacherous. Thrombosis has sometimes been noted in the capillaries.

DIAGNOSIS.—On the face, practically the only conditions with which it can be confused are tuberculosis and syphilis, both of which also leave scars behind them. From tuberculosis it is distinguished by its freedom from moisture, and the entire absence of the "apple-jelly" nodules which can always be detected in that disease. The period of its appearance, too, aids in diagnosis, for lupus erythematosus rarely commences before early adult life, whereas lupus vulgaris is certainly most common in children.

Lupus erythematosus is more frequently symmetrical than lupus vulgaris, and the simultaneous affection of the ears or the scalp simplifies the diagnosis, for lupus vulgaris hardly ever attacks the scalp, and not often both ears.

From the late crusted syphilide it is distinguished by its history, its symmetry, and the difference in its response to anti-specific treatment.

Lupus erythematosus of the scalp can hardly be confused with any other disease, by one familiar with it. Cases are sometimes diagnosed as ringworm, or alopecia areata; but the appearances, the course, and with regard to ringworm, the absence of any fungus, are distinctive. On the fingers, as has already been said, the resemblance to chilblain is so great that it is sometimes only either the development of scars or their persistence during the warm months that enables one to distinguish the disease.

TREATMENT.—A large variety of drugs is recommended by one or other observer for internal use. I cannot say that I have observed any marked benefit from any of them, but some patients have thought that they got benefit from quinine and phosphorus. M'Call Anderson prescribes iodide of starch; Bulkley, phosphorus; Payne, quinine; Crocker, salicin; while ichthyol, ergot, carbonate of ammonia, iodide of potash,

and arsenic, each have their advocates. White, of Boston, takes a very pessimistic view of the disease, and his words would suggest that any improvement following treatment is rather a matter of good luck than good guidance. His views are certainly not held in this country. From a pretty considerable experience of the disease I can at least indicate the lines on which treatment may hopefully be directed. It is all important not to use at the outset any treatment which may do the patient harm. The course of the disease is slow, and it is essential that the physician should have the full confidence of his patient. Therefore, it is of prime importance to avoid the application of grease, which almost always does harm to the erythematous form of the disease, and rarely does any good to the sebaceous one.

Since we are ignorant of the cause of the disease, our treatment is in the main symptomatic.

In the erythematous type our object is to soothe irritation, diminish hyperæmia, and dispel the exudation in the skin. The best application with which to commence treatment is calamine lotion (page 142). This is painted on twice or thrice daily. Simple dry powders such as talc, oxide of zinc, calamine, calomel, carbonate of magnesia, etc., may be applied. The swelling of the parts may also be treated by compression, which is most easily exercised by the application of collodion. This must be cautiously used at first, as it does not suit every case. Another method of treatment, suitable in the erythematous form, is multiple scarification. Hundreds of shallow incisions are made in all directions across the patch, bleeding is encouraged for a time, and then some simple dusting powder is applied. Some recommend following up this treatment by the application of firm, continued pressure, which it is claimed greatly aids its success.

The sebaceous form of the disease is most successfully attacked on different lines. It is perhaps not a bad plan to commence here also with calamine lotion, if only for the sake of avoiding doing any harm. Generally speaking, however, cases will stand much more active treatment than their appearance would suggest; a case in which the simple application of



zinc ointment would produce hyperæmia and aggravation, will benefit from a thorough scrubbing with soft soap. This method of treatment was originally recommended by Hebra, who advised that a piece of flannel be dipped in soap spirit and the part firmly rubbed with it until all the scales were dissolved away. The occurrence of some hæmorrhage is no reason for stopping this treatment, which should be carried out once every twenty-four hours. I have also seen much benefit result from the application of a mixture of soft soap and metallic mercury, three parts of soap being rubbed up with one part of mercury. This is rubbed in and allowed to remain on the part. Cases may also be treated by the application of liquor potassæ. A pledget of wool is dipped in this and the part is scrubbed for about five minutes. It is then bathed with warm water, and calamine lotion is applied.

Having indicated the main lines of treatment in these two varieties, I may next refer to applications which are recommended for both. Resorcin is sometimes useful; so is salicylic acid, and even chrysarobin; but the drug which has proved most useful in my hands is oxidised pyrogallic acid. This is prepared by exposing ordinary pyrogallic acid to the vapour of ammonia. Its chief disadvantage is its black colour. I order it in a 1 or 2 per cent. solution in acetone collodion. This is weaker than it is generally used, but it seems to me to be more efficacious than stronger solutions. Though applicable to both varieties of the disease, it is followed by more striking results in the erythematous type, possibly owing to the compression exercised by the collodion in which it is applied.

Other methods of treatment are recommended. One which has recently been a good deal referred to is Schutz's method, which consists in the application of Fowler's solution diluted with eight times its bulk of water. This is painted on twice daily, until a reaction sets in. When this has subsided, painting is recommenced, and according to Schutz the disease is usually cured in ten or eleven weeks. I can only say that I gave the treatment a thorough trial in half-a-dozen cases, and that they were not nearly well in that period. H. Hebra recommends the very

frequent application of absolute alcohol in which a little menthol has been dissolved. Caustics are recommended by some, but are of very doubtful value, and should never be used by the inexperienced. Sometimes the thermo-cautery may be used with advantage, but it should not be forgotten that this method of treatment usually leaves considerable scars, and that the disease not infrequently runs a natural course with almost invisible ones. Scraping is only resorted to by those whose knowledge does not enable them to distinguish between this disease and lupus vulgaris. It never does any good.

Opinions differ a good deal as to the effects of the X-rays in this disease. It is certain that they should only be used with great caution, and only by those who have considerable experience both with the rays and with the disease. Often a few minutes' exposure sets up a violent reaction, which if improperly treated may result in an extension of the disease. On the other hand, this reaction is sometimes followed, at an interval, by great improvement, and in other cases improvement sets in without any marked evidence of irritation.

I have not used Finsen's light treatment, which is said to have been useful in many cases; but recently a patient, an observant medical student, informed me that his face was always better after he had been away fishing, if the weather had been bright and the sun had been reflected from the water on to his face.

In conclusion, I would again repeat that those not experienced in the treatment of this disease should be content with the milder measures, under which the disease often improves as much, and nearly as often gets well, as under other remedies more potent both for good and evil.

## SCLERODERMA.

(σκληρός —*hard*; and δέρμα—*the skin*).

As the name indicates, this disease is characterised by a hardening of the skin. It appears in two forms, the diffuse and the circumscribed, the latter of which

is also known as *morphœa* (from *μορφή*—*a shape or form*).

DIFFUSE SCLERODERMA may be universal, affecting the whole of the skin; more frequently it is confined to a region, such as a whole arm, one side of the neck and head, etc. Sometimes the process is divided into two stages, a stage of infiltration or œdema, and one of atrophy. The former varies in its duration, being sometimes brief, sometimes prolonged.

On inspection there is often not much to be made out, though when the disease affects the face, the corpse-like immobility of the part is very striking. When the hand is applied the part feels cold and rigid. The comparison is often made, and very appropriately to a bladder tightly packed with lard. As the disease advances it seems to affect the deeper structures, and it is impossible to move the skin over them. In the later atrophic stage, contraction takes place, voluntary motion is interfered with, and the skin may be so tightly stretched over the bones as to ulcerate. If this occurs on the chest, the respiratory movements are restricted, and if on the face it may be almost impossible for the patient to eat. Sometimes the mucous membranes are involved. The disease affects by preference the upper parts of the body, and is more common in women than in men.

PROGNOSIS.—Sometimes the disease terminates fatally, through interference with the necessary functions of the body, but many cases sooner or later clear up, the induration slowly disappearing. In the cases, however, where there has been much contraction, the effects of that contraction, in the shape of atrophy and fixation of joints, are sometimes not recovered from. Progress is apt to be interrupted, the patient is very subject to chills, and acute rheumatism is a frequent complication.

CIRCUMSCRIBED SCLERODERMA, or MORPHŒA, is regarded by many, and with considerable show of reason, as being a different disease from the diffuse. As the name indicates, it appears in a more limited fashion than the diffuse variety, the commonest form being a round or oval patch on the chest, aptly compared to a piece of hard leather let into the skin. It is of a white

or old ivory colour, and is usually surrounded by a lilac-tinted zone of dilated capillaries.

This is, however, not the only form which it assumes. On the limbs, particularly in children, it tends to appear in band form, the bands being sometimes of considerable length. The old ivory tint is more pronounced in the band type, but the lilac border is not quite so prominent. Unna separates a form of Morphœa, which he describes as "card-like" Scleroderma. In it the spots are multiple, much smaller than those of typical Morphœa, and somewhat depressed, and they have a bluish-white colour, looking, as he says, as if a small portion of a visiting-card had been let into the skin. In a case under the care of Allan Jamieson in the Royal Infirmary, the tiny bluish white patches could be numbered by the score.

After lasting for a longer or shorter period, the infiltration clears up and the skin returns to the normal.

ETIOLOGY.—The cause of the disease is not known. In the diffuse form, rheumatism and erysipelas are frequent incidents in the history. In the circumscribed form, apparently some slight irritation is often the starting point. Sheppard notes that the irritation of a collar stud produced it in one case; the frequent occurrence on the breast of females is attributed to irritation from the corset; and Limont, of Newcastle, observed a case where it occurred simultaneously on both garter regions.

When sections are examined there is found an increased growth of the connective tissue, the elements of which are closely packed together, sclerosed. The blood-vessels are very much narrowed, and this is usually attributed to endarteritis. Unna, however, maintains that there is no question of endarteritis, but that the narrowing is due simply to the growth and pressure of the connective tissue.

DIAGNOSIS.—The only disease with which diffuse Scleroderma could be confused is *Sclerema neonatorum*, but as that disease is either evident at birth or appears immediately thereafter, and as Scleroderma does not attack very young children, the question can hardly arise. Circumscribed Scleroderma is most easily confused with *Leucoderma*, but the resemblance is only

superficial; in leucoderma there is no hardening of the skin, the only change is in the colour. *Morphœa*, which used to be called the "keloid of Addison," can hardly be confounded with true keloid, the "keloid of Alibert."

TREATMENT.--Time is the great remedy in both forms of the disease, but measures for the promotion of the general health are very important. Medicines are of little value, but it has appeared to me that thyroid substance has favourably influenced more than one case. Salicylate of soda is recommended by some. Massage is of undoubted value. There is massage, and massage. The case from which Plate XXXV was taken, improved very little under domestic rubbing, but very rapidly under the treatment of my friend Dr. J. H. A. Laing, who kindly took her under his care. Electricity in the form of electric baths, electrolysis, and static electricity, have all been tried. I have not seen much benefit from the application of ointments, whatever drug they contained, but Unna recommends the thorough application of an ointment of perchloride of mercury.

Hebra claims to have produced improvement in three cases by the injection of Thyosinamin, 10 ℥ of a 15 per cent. alcoholic solution being injected deeply into the inter-scapular region every second day. Lindemann has used arsenious acid hypodermically with benefit.

The case from which the illustration was taken was a girl of fifteen, and shows on the breast the round form, on the arms the band form, of the disease. The bands were rather more extensive than is here depicted, and by interfering with the mobility of the arms led to a certain amount of muscular atrophy. She had in addition one or two patches about the waist. The illustration shows the yellowish old-ivory colour (rather too deeply), the lilac border, and the shiny surface of the patches.

### SCLEREMA NEONATORUM.

This is a rare disease, which is found in new-born infants, and is often confused with an almost equally rare condition, *Edema neonatorum*. Both diseases





SCLERODERMA.





are present at birth or develop very shortly afterwards. Sclerema is always most marked on the back, œdema commences on the feet and spreads upwards. The skin in sclerema is intensely hard and cannot be pinched up, and the body becomes so stiff and rigid that it can be lifted by one hand. In œdema the parts are cold, livid, and pit on pressure. Some have suggested that both diseases are due to solidification of the subcutaneous fat, but the evidence of this seems insufficient. In both the prognosis is very grave. Sclerema is very rarely recovered from; œdema is occasionally.

The treatment consists in raising the body temperature, and in administering as much nourishment as can be absorbed.

## LEPROSY.

(*λέπρα*—*leprosy* from *λεπρός*—*scaly*).

Leprosy is a chronic disease caused by the presence of the lepra bacillus. It appears in two forms, which are best distinguished as the *nodular* (tuberous) and the *maculo-anæsthetic*. The division into nodular and anæsthetic, suggested by Danielssen and Boeck, is hardly strictly correct, because the nerves are affected in both forms, while macules are invariably present in the anæsthetic form. Mixed leprosy, too, is an unnecessary term. All cases of leprosy are mixed, and the one may pass into the other; indeed, the nodular almost invariably passes into the anæsthetic if the patient lives long enough.

Leprosy is found in many parts of the world, under such different circumstances that it is evident that climate can have little to do with its development. It may be said, speaking generally, that the more civilised a country, the higher the standard of living of its inhabitants, the less likelihood is there of leprosy.

The bacilli, which were discovered by Hansen in 1884, are straight rods very closely resembling tubercle bacilli in appearance. They have the same irregular staining, clear spaces being left, and the same reaction to staining reagents, with the difference that the leprosy bacillus stains more readily in the cold

than does the tubercle bacillus. Many attempts have been made to cultivate them, and a few claim to have done so successfully. No successful inoculation experiments on animals have been made, and Arning's famous case, where the disease was inoculated on a criminal, unfortunately loses some significance from the fact that the criminal's relatives were not free from the disease.

Heredity has long been a favourite theory in connection with leprosy. It is probable that there is not even in leprosy the quasi-heredity that there is in tuberculosis, namely the inheritance of a constitution which is not so able to resist the attacks of the bacillus as it should be. Clearly the children of leprosy parents have greater opportunities than those of healthy ones of acquiring the disease. Although it is difficult to prove, in connection with a disease where the incubation period may be as long as seven years, that leprosy is contagious, the fact has nevertheless been demonstrated to the satisfaction of most scientifically-minded people. The careful statistics of the leper department of the Norwegian Government clearly show that the number of new cases is directly proportional to the number of patients at large in a district.

**NODULAR LEPROSY.\***—In this form the lesions appear first upon the skin. As the name indicates, they take the form of nodes, varying in size. They are firm, usually semi-spherical in shape, are seated in the cutis, and the epidermis, being stretched over them, has a shiny surface. At first they have the colour of the skin, then they become reddish, and later, yellow or brown. Their favourite sites are the face, backs of the hands, and the extensor surfaces of the wrists. In countries where the inhabitants go barefoot, the dorsum of the feet and lower part of the calves are often first attacked. The eyebrows are almost always markedly affected, and to this is due the leonine expression so associated with the disease. The nodules are sometimes isolated, with deep clefts between them; sometimes the infiltration is diffuse,

\* Plate XXXVI is from a photograph given me by Dr. Armauer Hansen.

*PLATE XXXVI.*



NODULAR LEPROSY.

*PLATE XXXVII.*



MACULO-ANÆSTHETIC LEPROSY.

and the eyebrows are thickened as a whole. The hairs usually drop out. The eyelids are frequently diseased, and the lobes of the ears are very often swollen with leprous infiltration. The mucous membranes of the mouth, nose, larynx, and pharynx are also involved, all the soft parts of the nose may be destroyed, but the bones are not affected. The infiltration in the larynx is often so great as to threaten suffocation and to require tracheotomy. The lymphatic glands draining the leprous region are always diseased, but they never suppurate. The nerves are affected later, the facial, radial, ulnar, median and peroneal being always attacked, most markedly where they run superficially over the bones, where the increase in their size, due to increase of their connective tissue, enables them to be readily felt. The disease is also found in the testicle, the liver and the spleen.

The course of the disease varies in different patients. Fresh outbreaks occur at intervals, due apparently to a shower of bacilli reaching the blood stream. In some the eruptions are very few and far between; in others they recur very rapidly. The more frequent they are, the more vigorous is the growth of the individual nodules. Amyloid degeneration of the internal organs is very often the cause of death, and in leper hospitals many die of tuberculosis. The individual nodules are rarely absorbed; usually they burst and ulcerate, and if no fresh eruptions appear the patient may recover. The average duration of life is eight to nine years after the outbreak of the disease.

When a section of a leproma (as the nodule is sometimes called) is properly stained and examined under the microscope, the bacilli are found in millions. The generally adopted view is that these bacilli are intracellular, the cells they occupy being usually connective tissue derivatives. Hansen showed me a section where they were inside a white blood corpuscle. Unna, on the other hand, maintains that the structures in which the bacilli lie have only the appearance of cells, and are really masses of mucoïd material secreted by the bacilli lying free in the lymph spaces. All are agreed, however, with regard to the relationship of



the bacilli to each other. They are closely packed together, often in parallel rows like little bundles of cigarettes. In scrapings from an incised nodule the bacilli may be found in great numbers. Most authorities regard their apparent movements as molecular.

MACULO-ANÆSTHETIC LEPROSY.\*—This is a much more benign form of the disease than the other, and the prodromal stage, with debility, rheumatoid and neuralgic pains, sometimes lasts for years. The spots sometimes develop gradually and unnoticed, or they may appear suddenly with marked fever. They vary in shape, size, and depth of reddish brown colour, but have a general tendency to be rounded or ringed. They are most commonly situated on the back and limbs. Their supposed symmetry disappears on cross-examination, and the discovery of bacilli in them has finally disproved the theory that the eruption is vaso-motor. The adjacent lymphatic glands are always swollen, and have been shown to contain bacilli. The nerve affection which is so prominent in this variety of the disease is a leprous neuritis. At first it is accompanied by neuralgia and general hyperæsthesia, but as time goes on the acute symptoms settle down, fibrous tissue develops, and anæsthesia appears. As in the other form, the affection of the nerves is not equal; they are most markedly thickened over the bones. Trophic disturbances, such as the formation of bullæ, ulcers, etc., supervene. The nails share in the trophic changes, the secretion of sweat is diminished, and the hairs fall out. The muscles are not directly affected; their weakness is due to secondary atrophy. This is most marked on the hands, forearms, feet and legs, and on the face. The interosseous muscles atrophy, and the "main en griffe" is developed. The orbicularis oris and the orbicularis palpebrarum are paralysed, and the mouth and eye suffer from their disuse. The muscular sense is preserved, and patients can do needlework so long as any muscle remains. Many of the so-called trophic affections are indirectly due to the anæsthesia, and are

\* Plate XXXVII is from a case under the care of Dr. Elder, in Leith Hospital. The patient was a sailor from the north of Scotland.

the result of injuries which are not perceived by the patient, who may, for example, sit in front of the fire perfectly comfortable, while his trousers are burned through by the heat, or may lift a boiling kettle, unconscious of the fact that the heat is burning his hand. Hansen has never succeeded in finding bacilli in these pemphigoid bullæ. The phalanges atrophy, and necrosis often occurs. It is interesting to note with what impunity operations for necrosis may be carried out without anæsthetics and with complete success.

Cases of maculo-anæsthetic leprosy last for ten, twenty, or even thirty years, the neuritic symptoms becoming more and more prominent in unfavourable cases. Many cases in time suffer from nothing but anæsthesia; the leprosy has gone.

When a recent macule is examined under the microscope, the bacilli are found in considerable numbers. The older the macule the fewer are the bacilli, sometimes a very careful search being requisite to find any. The same is true of the affected nerves. In a *post-mortem* examination the bacilli are very rarely found, but Arning found them in a piece of ulnar nerve removed during life. The medullary fibres have largely disappeared; the nerve is practically transformed into fibrous tissue. The muscles contain no bacilli at any stage of the disease, the muscular affection must therefore be looked upon as a secondary one due to the neuritis. The spinal cord shows the usual evidence of ascending degeneration.

What determines the variety in any given case is quite unknown. The proportions between the two vary remarkably, but according to Hansen, anæsthetic cases are more numerous where the climate is dry, an observation which would seem borne out by experience in the dry countries of the East.

DIAGNOSIS.—The diagnosis of advanced cases of nodular leprosy is very easy, and it is generally when the disease is fairly advanced that the patient seeks advice. In suspected cases, where the disease is still in an early stage, the first signs are to be sought in the infiltration of the eyebrows and the ears. If doubt still lingers, it can be set at rest by the

demonstration of the bacilli. The most satisfactory method is to excise a small portion of a nodule and cut sections of it, but bacilli may sometimes be found in the fluid of a blister artificially induced.

The maculo-anæsthetic form is by no means so easy to diagnose, and cases are often overlooked when they turn up in countries where leprosy is not familiar. Many of the cases present a superficial resemblance to psoriasis (Plate XXXVII), although the scarring present should prevent any mistake in diagnosis. The sensation of growth, which is present in this disease as in syphilis, is one means of distinguishing the two; the development of anæsthesia in the centre of the patch, the enlargement of the lymphatic glands draining the affected surfaces, the thickening of the ulnar and peroneal nerves, and the resistance to treatment, all help to establish the diagnosis. If there is still doubt, excision may be practised. In estimating the amount of loss of sensation the test used must be a delicate one, for the anæsthesia is in the skin, and the sensation of deeper pressure is not lost.

PROGNOSIS.—Both forms *may* recover, all the leprosy products disappearing. In nodular cases this is very exceptional, but in the maculo-anæsthetic it is quite common. In reference to Hansen's statement that "recovery is the almost invariable result in the maculo-anæsthetic form," it must be borne in mind that "recovery" refers to the leprosy, and that what is left is usually what Hansen describes as "only a miserable remnant of a human being." (See footnote page 263.)

TREATMENT.—The treatment of leprosy leaves much to be desired. The number of remedies recommended is large enough, but those which are really valuable are few. Salicylate of soda is the drug which Dannielssen believed to be of most value. He commenced with doses of 15 grains four times a day, and gradually increased it. Chaulmoogra oil has a considerable reputation. It is given internally, in doses of from 3 grains three times a day, and applied externally, and many observers have noted improvement under its use. Arsenic is stated by Hansen to do more harm than good. If pushed, it may

cause some diminution in size of the nodules, but this is merely a part of the general emaciation which its too free administration causes, and when the patient recovers his condition after the stoppage of the arsenic, the nodules recover their size. Ichthyol is used both internally and externally by Unna, and is sometimes beneficial, and Crocker has had some remarkable results from the injection of sozoiodolate of mercury gr.  $\frac{1}{4}$  once or twice a week. Iodide of potassium appears to be always injurious, and, indeed, Dannielssen used it as a test in cases which were apparently cured, for if any disease remained, the iodide of potassium seemed to bring it out.

Surgical methods are often required. Nerve stretching has apparently sometimes been successful in relieving the symptoms. When nodules occur in the sclerotic, and are advancing towards the pupil, the cornea should be divided in front of them; the wall of infiltration seems to prevent further advance.

Blood serum from other leprous patients has been injected—sometimes it is said with benefit, but until some susceptible animal has been found a leprosy antitoxin is only a dream.

According to Hansen, the most important thing both for the patient and the community is to put the patient in as good circumstances as possible, and to use all measures of personal cleanliness; and the remarkable diminution in the number of lepers in Norway under his able and vigorous *regime* is the very best proof of the value of these means.

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\* While correcting this proof I received a letter from Dr. Hansen, telling me that Dr. Lie had found bacilli in the nerves and spinal cord of a very old anæsthetic case, in consequence of which "my opinion, that these cases are healed, is wrong." He believes, however, that these patients are not dangerous to others, the bacilli are so well hidden.

## SECTION VI.

### NEW GROWTHS.

These may be divided according as they are *malignant* or *benignant*, and sub-divided according as they are *epithelial* or *connective tissue* in origin.

#### MALIGNANT EPITHELIAL GROWTHS.

##### CARCINOMA.

Cancer of the skin appears in a variety of forms. It may be secondary to cancer of some other organ, when it may take the form either of multiple nodules or of "Cancer en cuirasse," a diffuse carcinomatous infiltration of the skin, which is occasionally primary. Under most circumstances these cutaneous manifestations are of only secondary importance.

The common primary cancers of the skin are two, the Epithelioma and the Rodent Ulcer.

EPITHELIOMA.—This is fully dealt with in all text-books of surgery, and need only be briefly referred to here. Commencing as an abrasion or a small ulcer, near the junction with some mucous membrane, or, if elsewhere, usually due to the action of some definite irritant, *e.g.*, paraffin, it rapidly increases in size, attacks the deeper structures, infects the glands, and if not speedily dealt with, leads to the death of the patient. The epithelial cells go through their ordinary metamorphosis, and characteristic horny perles—cell nests—are developed here and there in the tumour.

RODENT ULCER.—In many text-books of surgery this form of cancer is not sufficiently discussed; in particular, the early appearances of the disease are not described in sufficient detail to enable those unfamiliar with it to recognize it at this most important stage.





*PLATE XXXVIII.*




RODENT ULCER.

While the general statement, that in the great majority of instances it appears on the face above the level of the mouth, and Jacob's, that it appears in the neighbourhood of the eye, are quite correct, probably still greater precision may be attained. In a very considerable experience of this disease I have found that nearly 70 per cent. of the cases are on one of two situations, the relative proportions being about 5 to 3. These are, the border of the nose just where it rises from the cheek, about the juncture of the upper and middle third, and the outer angle of the eye. Of the remaining 30 per cent. of cases, probably 25 per cent. occur on other parts of the face, and 5 per cent. on other parts of the body. I have seen it on the forearm (twice), on the back, the hand, the pubis, and on the vulva; in each of these cases the diagnosis being confirmed by histological examination.

The name is in many respects unfortunate. The disease has always lasted some time before it is either "rodent" or an "ulcer." It commences as a small nodule in the skin, the epidermis over which being stretched, acquires, as it always does under such conditions (*Lichen planus*, *Molluscum contagiosum*), a shiny, burnished, mother-of-pearl appearance.

The nodule has a glistening, translucent appearance, most comparable to that of the horn of a light-coloured cow. At this stage it may long remain. When it commences to grow it does so from this centre, and as it extends at the periphery, the centre flattens down, and we have a little hollow surrounded by an elevated ridge, which may be compared to a lake surrounded on all sides by hills. The edges slowly advance, the centre is further depressed, and this may go on until an area as much as half an inch in diameter is enclosed by the walls. Usually before this size is reached the surface gives way either wholly or in part, and an ulcer is at last developed. Plate XXXVIII shows very distinctly this partial ulceration, and the rounded, elevated, advancing border of the growth. When the whole of the surface sloughs, and the ulcer is continuous right up to the border, we have the typical rodent ulcer and the typical "rolled" edge. The appearance on section resembles that of the figure 5, laid on its side

with the tail removed, , the stroke representing the ulcer and the loop the "rolled" edge. The ulcer has a finely granular surface, the discharge is comparatively slight, and if carefully dressed it may temporarily scar over. If left alone the disease steadily progresses, attacking and destroying every structure which comes in its way, and ultimately leading to death from exhaustion, hæmorrhage, or meningitis.

Metastasis is very rare, but it is not unknown, and more than one case has to my knowledge developed cancer of some internal organ and terminated fatally.

The disease differs from epithelioma in very many ways. It commences differently, it very rarely metastatises, and it is infinitely more chronic in its course.

When sections are examined the difference in structure is at once evident. Whereas in epithelioma the new growth is evidently continuous with the surface epithelium, in rodent the *evident* connection is very slight. When it does develop from the surface epithelium, and I admit that in some cases it does, it very soon takes on an independent course, and has a prolonged duration, *below* the epidermis, before it once more comes to the surface as an ulcer. This is not the place to discuss the various and conflicting views as to the origin of the growth. Possibly all are partly right, and the disease may take its origin in the rete, the hair follicles, the sebaceous or coil glands. I believe, however, that Sir Benjamin Brodie was correct when he drew attention to its very frequent origin from moles. The structure of many of these growths closely resemble that of certain rodent ulcers, and although moles are usually described as consisting entirely of connective tissue elements, they are in fact almost all of epithelial origin (see p. 276).

The specific cells of rodent ulcer are small, closely packed together, and are arranged either in alveoli or in long, thin processes. While one or other of these architectural plans is mainly followed in any given case, both arrangements are often found. When in alveoli they very often have a peculiar "whorled" arrangement, and although in the centre of large masses they may show degeneration (probably colloid), they do not,

except in very exceptional instances,\* undergo cornification and form cell nests.

Fig. 46 is a section of a portion of the growth shown in Plate XXXVIII, and illustrates very well the appearance of a typical Rodent Ulcer.

DIAGNOSIS.—If the case is seen in the early stage, before any central depression has formed, it is difficult to distinguish it from an unpigmented mole. If, however, the growth is increasing in size—and the patient is hardly likely to seek advice unless it is—it is well to remove it on chance.



Fig. 46.—Section from the case shown in Plate XXXVIII. The section is taken from a part which was not ulcerated, and shows the typical collection of cells, some of which have a "whorled" arrangement;  $\times 50$ .

When the central flattening has occurred I do not know of any other condition with which it can be confounded. The reason it is not more often diagnosed at this stage, is that the term ulcer is so unfortunately associated with the disease.

When ulceration has occurred it may be confounded with syphilis and tuberculosis. From the former it should be easily separated. A syphilitic ulcer will reach a size in weeks which it will take a rodent years to attain. Itching, which is usually strikingly absent in all syphilitic manifestations, is generally the only complaint of a patient with rodent ulcer. Pain is remarkable by its absence even in advanced cases.

\* Taking together my own and other specimens which I have examined, I must have seen over 200, and I have only twice seen cell nests.



While both ulcers may skin over under simple cleanliness, the syphilitic one will remain scarred, while the disease spreads at the margin; the rodent scar invariably breaks down again. Too much stress should not be laid on the effects of treatment. The late ulcerating syphilides are by no means too ready in their response to it, and the fact that a doubtful ulcer does not at once commence to improve under iodides does not prove its non-specific character.

From tuberculosis the diagnosis is much more difficult, and I have to confess to having on two occasions removed tuberculous ulcers under the belief that they were rodent. A great deal too much has been made of the age at which the diseases respectively attack the skin, and the statements that Lupus is a disease of youth, and Rodent one of age, are neither of them in accordance with my experience. The two cases above referred to were aged, one twenty-five and the other fifty-five, and in both the new growth had a duration of less than two years. Rodent usually commences about the age of forty. The statistics which show a greater age, usually deal with the age of the patient at the time of operation, and ignore the fact that the disease may have lasted ten, fifteen, or more years. Lupus, too, is by no means so exclusively a disease of youth as is so dogmatically laid down by the Vienna school. Quite 10 per cent. of all cases develop in adult life.

The points of differentiation on which stress is to be laid are: (1,) The history. If the word of the patient can be depended on, this is of considerable value, for the translucent prominent nodule of the early Rodent differs very much from the reddish brown, flat lesion of Lupus; (2,) Direct observation. It may be that the Lupus has taken on the fibroid type (see "Lupus," p. 227), and is elevated above the level of the skin; it may feel hard, but it always lacks the abrupt, rounded, elevated border, which is so characteristic of rodent. In ordinary cases it is almost always possible to demonstrate some of the brownish-yellow nodules which are essential to the absolute diagnosis of Lupus. If it is impossible to decide the matter, it is best to err on the safe side and treat the disease as if it were Rodent.

PROGNOSIS.—Untreated cases go on steadily from bad

to worse, and invariably prove fatal if the patient does not in the meantime die from some other disease. If diagnosed early, and properly treated by *thorough* excision, there is no tendency to recurrence, and it is in order to emphasize the importance of early diagnosis and thorough removal, that I have given to this disease an amount of space which may to some appear disproportionate to its frequency.

TREATMENT.—By far the best treatment is excision by the knife. In the early cases, where the growth is comparatively limited in size, and where the tissues are loose, so that the gap left after removal is easily closed, no other treatment should be considered. Even in more extensive cases the knife, in skilled hands, is perhaps the best of all treatment, but the disfigurement caused by the mutilation is often so great that patients shrink from operation.

The method of treatment by the application of caustics has fallen into some disrepute, through want of attention to details. There is no doubt that if applied under experienced direction, many cases of considerable extent may be treated as satisfactorily with regard to cure, and more satisfactorily with regard to appearance, by caustics than by the knife.

In the first place suitable caustics must be used. Nitrate of silver, and other playthings of that nature, always do harm, merely stimulating the growth to increased activity. The caustics which may be used safely, are Salicylic acid, Pyrogallol and Resorcin, and probably most satisfactory of all, Arsenious acid. All these drugs have what has already been referred to under Lupus as a *selective action*, *i.e.*, they act more destructively upon the diseased cells (in this case the cancerous ones), than on the healthy tissue around. The formula which I use is Arsenious acid and powdered Acacia, of each two drachms, Orthoform half a drachm. This is made into a paste with a little water, and if the surface be ulcerated, it is applied directly to it. If the surface be not ulcerated, it should be rawed either by the curette, or by the application of a strong solution of caustic potash, and in any case it is a good custom to treat the edges, which rarely are ulcerated, in this way. In twenty-four hours the part has swollen up,



and the pain experienced is very severe, so severe that it is often necessary to give the patient morphine. If enough destruction has been caused at the end of that period, a poultice may be applied to hasten the separation of the slough. But if one has reason to suppose that the carcinoma extends for any distance beyond the actual ulcerated surface, then a fresh application of the paste should be made. I cannot say that I have ever seen any harm result from a too prolonged use of the paste, while I have repeatedly seen it from too brief use. Under poulticing the slough separates and comes away, in a week or ten days, leaving behind it a healthy granulating surface, which has to be watched for any trace of disease persisting. In many cases one course of this treatment is successful; it is a want of courage in the application which is responsible for the disrepute into which this caustic method has fallen.

In the X-rays we have obtained a treatment for Rodent Ulcer which probably surpasses all others. They are applicable to all forms of the disease, but are especially of value in those widespread cases, which have extended beyond the reach of the surgeon's knife. In the small non-ulcerated cases, daily application of the Rays for ten minutes leads to gradual ulceration and breaking down of the growth. This seems to be cast off, and under a continuance of the application, the ulcer heals up with a sound surface. Such cases, however, are as easily treated by other means. In the widespread ulcerated and excavated cases exposure to the Rays results, first in a drying up of the discharge, and an increased feeling of comfort. In the course of a week or ten days it is quite apparent that epithelium is growing from the edge over the surface of the ulcer. Not only this, but the excavated cavity seems to fill up from the bottom, and if the treatment is persevered in, the ultimate result is a smooth flat scar, which no one unfamiliar with the method would have believed to be attainable.

#### XERODERMA PIGMENTOSUM (KAPOSI'S DISEASE.) (*ξηρός*—dry.)

This is one of the rarer diseases of the skin, and none of its numerous names are altogether satisfactory. It

is one of the family diseases, and usually affects all the members of one sex. The first evidence of it is a dry roughness of the skin of the face and hands, at the period when the child first begins to be about in the open air. About the age of three or four, a profuse freckling appears on the exposed parts (face, neck, and hands). This freckling, though it does not disappear in winter, is very much worse during summer. Then the skin begins to shrink, little areas become white and atrophic, and for this reason Crocker prefers to name it *Atrophoderma pigmentosum*. The shrinking of the skin draws down the eyelids, giving the child a peculiar woe-begone expression. There next develop teleangiectases, or dilatations of the capillary vessels, which add their share to the variegated appearance of the patient's face. The next symptom consists in the development of little mole-like or warty growths, which, if left alone, rapidly take on a malignant action, destroy all the tissues in the neighbourhood, and lead to a fatal result. This result is due to the exhaustion produced by local destruction; the tumours do not metastasise.

The true nature of the disease is unknown. Exposure to the sun has very evidently an important bearing on its development, but beyond that we know nothing. The tumours are, according to Unna, in all probability merely the development of hitherto unnoticed or unnoticeable moles (*q.v.*), and if each of them is removed as soon as it is observed, the progress of the case is very much delayed. It would seem as if the efforts of the skin to protect the deeper tissues from the sunlight were in some cases ill-directed, and instead of the ordinary bronzing of the face occurring, the pigmentation is concentrated in small areas.

PROGNOSIS AND TREATMENT.—The prognosis is very grave, and the duration of the disease depends entirely on the care which is taken of the patient. If he is protected from the sun by wearing a brown veil and gloves, and if the little tumours are removed as soon as they are observed, he may live for many years, but a fatal termination is almost inevitable.

Herxheimer and Hildebrand have recently published an account of four cases of this disease, with an enquiry

as to the after history of several of the hundred cases now on record. Their enquiries suggest that, if the period of adolescence can be tided over, the progress of the disease may be stayed, and in this connexion it is interesting to recall the fact that *Hydroa puerorum*, another disease dependent on the sun's rays, usually disappears at that period.

### PAGET'S DISEASE OF THE NIPPLE.

This is a cancerous inflammation\* of the nipple and areola, which appears in middle-aged women. The surface is dark red, granular and moist. Some itching is felt, sometimes alternating with pain, which latter is often very severe. Sometimes crusts develop, and conceal the red granular surface. The disease may last in this form for years, but ultimately the carcinomatous process spreads to the breast itself.

DIAGNOSIS.—This is, of course, of the utmost importance, for on early diagnosis often depends the patient's life. The only disease with which it can be confused is eczema. Eczema of the nipple is practically confined to women at the nursing period of life, and does not often extend beyond the areola. The apparent enlargement of this is therefore a suspicious sign. Though there is often some degree of infiltration of the skin in eczema, there is in this disease the peculiar hardness, which is common to all malignant epithelial growths of the skin. M'Call Anderson compares it to the feeling of a penny felt through a piece of cloth. Eczema is associated with more itching than is Paget's disease, and probably fissures are more common in the former. At the same time it must be admitted that the diagnosis is often very difficult, and in a doubtful case occurring in a woman over fifty, it is probably safest to assume that the more serious disease is present.

One or two cases have been recorded where a similar affection appeared on other parts of the body.

TREATMENT.—Treatment consists in the removal of the entire breast. Partial operations are rarely satisfactory.

\* Unna regards Paget's disease as an inflammation, not in itself cancerous, which, however, prepares the ground for cancer so successfully that in most cases it develops.

## MELANOTIC CARCINOMA.

Though they are usually described as sarcomata, most melanotic growths are carcinomatous. Their structure is difficult to investigate on account of the deep pigmentation, but when this is removed by appropriate means, their carcinomatous structure can generally be easily recognized. Melanotic cancer\* begins in a mole which has previously existed in a quiescent state. Some unknown irritant excites rapid growth, and the disease spreads to other parts of the skin, to the glands, and to the internal organs. The fingers or toes are quite frequently the seat of an almost unnoticed mole, but it is often difficult to discover the primary cause of a profuse eruption of melanotic nodules. For the dermatologist the interest lies in the early stage, when the mole first shows signs of irritation, for it is then that the question of treatment comes up for consideration. It cannot be too definitely laid down that there is only one treatment for an irritated pigmented mole, namely, free excision. If the patient objects to this, the mole is far better left alone than treated with any irritating caustic. Too often, even the promptest interference is too late. It is, indeed, impossible to over-estimate the gravity of the prognosis of melanotic cancer. When a number of melanotic nodules have developed, it is as well to leave the case alone. Operative interference of a partial kind generally aggravates and spreads the disease.

I always advise the removal of a pigmented mole which is in any situation where it is exposed to irritation. Removal can do no harm, and may avert trouble.

## MALIGNANT CONNECTIVE TISSUE GROWTHS.

## SARCOMA.

Both the spindle and round-celled Sarcomata may occur in the skin, where they may either be primary or secondary. As already stated, most melanotic growths are carcinomatous, though one is not prepared altogether to deny that a sarcoma may be pigmented.

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\* I do not here refer to the melanotic growths of the eye-ball, though I believe that they too correspond more with the carcinomata than with the sarcomata

Unless promptly treated, the prognosis is of course extremely bad. The sarcoma should be excised whenever the nature of the tumour is recognized. When it has become very widespread, and is beyond the reach of surgical treatment, the subcutaneous injection of arsenic is sometimes useful. The injections need not be made directly into the tumours. The drug may also be given by the mouth, though it seems to act less beneficially than when injected.

#### BENIGNANT EPITHELIAL GROWTHS.

##### VERRUCA.

(*Verruca—a wart.*)

Warts are little tumours composed mainly of epithelium, each division of which contains a connective tissue core. They appear on any part of the surface, and are, in all likelihood, due to some contagion, the nature of which has, however, not yet been discovered. The appearance of the ordinary wart is so familiar that it is unnecessary to describe it. The plane or flat wart is not so familiar. It is not uncommon on the hands, and consists simply of a thickening of the epithelium, which does not divide into processes, and consequently does not project in a cauliflower manner over the surface.

The best way of getting rid of warts is to snip them off with scissors. If this plan be adopted all the lesions should be treated at a sitting, and if the part be frozen, the pain is comparatively trifling. If this method be objected to, salicylic collodion (a drachm to the ounce) may be applied daily. This gradually destroys the redundant epithelium. Acetic acid and more powerful caustics are recommended by some. They distribute the pain over a greater period of time and are not nearly so satisfactory as the scissors method. In those warts which occur in the genital region, the application of a simple drying powder, with perhaps 5 per cent. of salicylic acid in it, often suffices. Warts there owe their size to the heat and the moisture of the parts, and when these are dispelled they shrivel up.







MOLLUSCUM CONTAGIOSUM.

## MOLLUSCUM CONTAGIOSUM.

This is a somewhat rare disease, though it occurs more often than it is diagnosed, the little tumours being often mistaken for ordinary warts. The usual history of a case is that a small "pimple" appears on the skin. Of this little notice is taken. By and by it swells and gets red and irritable. Some soothing application is made, under which the signs of irritation disappear. Some weeks afterwards a group of little



Fig 47. Molluscum Contagiosum. Central section shows lobulated character. "molluscum bodies" in the centres of the lobules and, in this case, a central dimple. Sometimes this is replaced by a projection;  $\times 50$ .

tumours appear in the neighbourhood. These vary greatly in size. They may be no larger than a small pin's head; they may grow as large as a hazel nut. At first they are of a yellowish colour, their surface is shining, and they contain in their centre a dimple or a projection which gives to them a very characteristic appearance (Plate XXXIX). The plate shows the original inflamed spot, and the secondary group.

When one of the little growths is examined under the microscope, the condition shown in Fig. 47 is seen. The appearance of a central section recalls that of a sebaceous gland, that is to say, the epithelium is arranged in lobules, in the centre of which, as in the sebaceous gland, a change has taken place. The change, however, is different, and instead of the fatty *débris* found in the sebaceous glands, we have

here a number of hard oval structures which are known as "molluscum bodies." These are the result of hyalin degeneration of the epithelial cells, and are not, as was at one time supposed, parasites. The explanation of the lobulated character of the growths is purely physical, and is referred to on page 5. The actual cause of the disease is still unknown. The growths are undoubtedly contagious, but the contagion is one that takes a long time to show its results, and no one has as yet been able to identify it. Pick found that six or more weeks elapsed before any trace appeared at the seat of inoculation. The disease also occurs in the lower animals, and Shattuck has drawn attention to its occurrence in sparrows, pheasants, domestic fowls, and pigeons. If left alone, the disease will continue to spread, and last for a very long time, indeed there is no reason why it should not last for ever.

TREATMENT.—This is simple. By far the best treatment is to snip off each growth with scissors. This is no more painful than slitting each one open and letting out the contents, and it is infinitely more certain. If the spot is inflamed, that is if it has become septic, it should be dressed with mild antiseptics until the irritation disappears, otherwise the little wound will be long in healing.

#### MOLES (NÆVI).

Moles or *nævi*, for the word *nævus* embraces all manner of growths, and should not be restricted to the *angiomata*, are growths of the skin, of congenital origin. They may not be visible at the time of birth, but in all probability their foundations are laid, though they may never be used for building on. Moles are the best example of Cohnheim's theory of aberrant cells.

They are distinguished from warts by the absence of any papillary marking on their surface. The surface may be creased and grooved, but it has not the cauliflower appearance of a wart. The explanation of this is found on examining a section, when the new growth is found to lie *beneath* the surface epithelium. This new growth consists of cells, as to the nature of which there is much difference of opinion. The cells are small





MOLLUSCUM FIBROSUM.

in size, and being indeterminate in character, have usually been regarded as of connective tissue origin. In the moles of adults it is exceedingly difficult to determine their character, but if moles from young children are examined, there is a considerable amount of evidence pointing to their origin from the surface epithelium. Rounded or pyriform areas of cells may be seen, still in connection with the rete, dropping down into the corium, where little rounded collections apparently derived from the same source may be seen. The fact that when these little growths take on a malignant action and spread, they follow the course of carcinomata, is a strong clinical argument in favour of their epithelial origin. Probably all moles are to some extent pigmented. In most of them the pigment is limited to superficial layers, and it is exceptional to find the pigment throughout the entire new growth of cells. The deeply pigmented moles may give rise to melanotic cancers, while the non-pigmented ones are, as Brodie long ago pointed out, not infrequently the starting point of rodent cancer of the skin. If moles are seated where they are exposed to irritation, or in a locality, such as the side of the nose, where they are liable to take on malignant action, they should be removed, even although they show no signs of activity. If caustics are to be used they must be very thoroughly applied, and must be of a powerfully destructive nature, such as arsenious acid, see page 269. Electrolysis may be used to destroy small growths, but its application, too, should be thorough. If either of these methods are too tenderly used, harm and not good may result. The knife remains in these cases the best and safest weapon.

## BENIGNANT CONNECTIVE TISSUE GROWTHS.

## FIBROMA.

This may be single, when it presents no special peculiarities. When multiple, the condition is more correctly described as Neuro-fibromatosis, and is usually known as *Molluscum fibrosum*. The patient presents a very remarkable appearance. Plate XL is from a photograph taken by my friend, Dr. Rorie, of Cardenden, of a Hindu, who was supposed to owe the



disease to a change of his religious opinions. It is an admirable example of a well-marked case.

When first noted, each tumour is evident as a little hard nodule, feeling, beneath the loose skin, like a pea or a bean covered with thick velvet. The lump increases in size, and gradually projects above the surface, while the skin stretches over it. Sometimes the tumours undergo a species of atrophy, and a little empty bag of skin is left. Cases so severe as that shown in the Plate are fortunately rare, but instances where there are a dozen or two tumours are not infrequent. They give rise to no symptoms, except those of inconvenience on account of their size and position.

When the tumours are examined under the microscope they are found to consist of fibrous tissue, dense or loose according to the consistence of the tumour. "They are of the nature of soft fibromata related to the terminal filaments of the cutaneous nerves, and they resemble very closely the structure of the plexiform neuro-fibroma." (*v.* Recklinghausen). Alexis Thomson, whose masterly monograph should be consulted for further information, says the tumour tissue is either a succulent, spongy, feebly fibrillated tissue, rich in cells and blood vessels, or a tougher more fibrous tissue, with the fibres arranged in bundles. There is neither any new formation nor any degeneration of the nerve fibres concerned.

DIAGNOSIS.—This presents no difficulty. There is practically no disease with which it can be confused; only *Mycosis fungoides* has a very distant resemblance to it. The tumours in this disease lead to no discolouration, and do not ulcerate except from accidental injury.

TREATMENT.—Nothing is of any avail but removal, and precautions with regard to hæmorrhage, which is sometimes considerable, should be taken. Of course in cases of the severity shown in the Plate, only those growths which are seriously inconvenient are removed.

### KELOID.

(*κηλὴ*—a *claw*.)

While there is no great difference in their anatomy, there are sufficient clinical differences to justify a





KELOID.

distinction between Keloid proper and the hypertrophic scar. True Keloid is a very characteristic growth, and is admirably represented in Plate XLI, for which I am indebted to my friend, Dr. Limont, of Newcastle. Probably all keloids arise in scars, but these may be of such a minute nature as to have altogether escaped the patient's attention. In this case, as in many others which have been observed, the keloid commenced in a scar produced by the application of a mustard poultice. On the chest and back, the commonest situations of keloid, it probably takes its origin in the scars of some bygone acne. The name is well fitted to the appearance. The tumour is longer in one direction than in the other, and usually sends out at its long ends *claw-like* processes. At the sides the margins are usually more abrupt, and the number of processes less than shown in the illustration. The colour is a bright pink, and the surface is shiny, through stretching of the epidermis, beneath which a few dilated vessels may be seen. Once developed, Keloid tends, with occasional intervals of rest, to steady increase. In this it differs very markedly from the hypertrophic scar, which, though it hypertrophies, does not usually spread beyond its original limits. The hypertrophic scar is frequently seen in connection with operation wounds in tuberculous cases, and is quite commonly the result of scraping lupus. Keloid is most often single, but two or three are not infrequent, and cases are on record where the tumours have been numbered by hundreds. Such cases usually follow eruptions of boils, small-pox, etc.

When a section of Keloid is examined under the microscope, it is found to consist of very dense fibrous tissue; all the epidermic appendages have vanished, and the rete runs in a thin layer over the surface. The fibrous tissue is sometimes fairly cellular if the growth be active, and keloid may be regarded as a step on the ladder between the simple fibroma and the recurrent fibroid of Paget.

In favourable cases the part may flatten down and the tumour disappear, but as a rule the duration is very prolonged, some cases having been recorded in which forty or fifty years' existence had been noted. The

hypertrophic scar shows much more tendency to disappear than does the true keloid.

TREATMENT.—Excision, which would appear to be urgently called for, is worse than useless. It seems to be a matter of indifference how wide the incision goes, the tumour always returns in an aggravated form in the scar. The same is true in a modified degree of the hypertrophic scar. Other means have consequently been attempted, and electrolysis, multiple scarification, and pressure, have all been used, sometimes with a certain amount of success. Thiosinamin, which was introduced by Hans Hebra as a remedy for lupus, has on several occasions been used with benefit in keloid. It may be injected into the growth or applied over it in the form of a plaster, as prepared by Beiersdorf and recommended by Unna. The X-rays are undoubtedly useful in cases of hypertrophic scar, but I have not been able to satisfy myself of their benefit in keloid.

### NEUROMA.

(*νευρον*—*a nerve*.)

True neuromata of the skin are unknown. Alexis Thomson says that all the authenticated cases of true Neuroma were connected with the sympathetic nervous system. "Painful subcutaneous tubercles" are subcutaneous growths which appear particularly on the forearms, hands, and legs, and are generally exceedingly painful, at least on pressure. They are circumscribed tumours of the nerves, and may be fibromatous, myxomatous, lipomatous, angiomatous, or lymphangiomatous. They arise from the sheath of some nerve trunk, and are met with in the course of nerves, and not at their peripheral terminations. The pain is due to stretching or compression of the nerve fibres. Excision is the only means of treatment.

### ANGIOMA.

There are several forms of angioma which occur in the skin. *Nævus araneus*, or "spider" *nævus*, is most common on the face, and consists in a dilatation of the small vessels, which assume a form somewhat resembling

a spider's web, a large vessel in the centre taking the place of the spider. It may increase to a considerable size. Then there are the small, angry-red angiomas, which are very common upon the chest and back, but may occur in other situations also.

Nævus flammeus is the familiar port-wine stain, most frequently observed on the face, less often on other parts of the body. According to Unna it is due to the intermittent pressure exercised on the fœtus during intra-uterine life by the bones of the maternal pelvis.

TREATMENT.—Spider nævus is very easily dealt with. Electrolysis of the central point usually cures it permanently in one or two sittings. The small rounded nævi are pretty easily disposed of by the same means, and if that method is not convenient, either of them may be treated by the application, on a very fine point, of some caustic such as nitric acid, the acid nitrate of mercury, carbolic acid, or the ethylate of sodium.

Port-wine stains are not very often improved by treatment. It is, no doubt, possible to produce improvement by electrolysis, but the process is very prolonged, and the results are too uncertain to make it a method strongly to be recommended. Unna has tried treating these cases with prolonged pressure, but I do not know that his results were very satisfactory. Sutassy reports the complete disappearance of a port-wine mark after a series of exposures to the X-rays.

Subcutaneous nævi come under the care and treatment of the surgeon.

### LYMPHANGIOMA.

This is a tumour of the lymphatic vessels, which may appear on any part of the skin. It is unnecessary here to discuss the question as to whether lymphangioma or lymphangiectasis is the more suitable term for individual cases. When once present it is of little practical importance whether the lymphatics are new-formed, or merely existing ones dilated. The little growths appear in irregular groups, and look like vesicles, in fact cases are frequently mistaken for Zoster, from which, of course, they are easily distinguished by their persistence. The vesicles are deep and



have thick walls, and when pricked, discharge, and continue to discharge, a colourless fluid. Often there is only one patch, whose appearance suggests that of a white raspberry opened out and inserted in the skin. Once fully developed they show no great tendency to spread, or if they do, spread very, very, slowly.

TREATMENT.—The vesicles may either be dried up by electrolysis, which requires repetition several times, or the whole patch may be removed by the knife. Incision must go pretty wide of the disease, otherwise the tendency to recurrence is great.

### ADENOMA SEBACEUM.

Many cases of the disease to which this term is generally applied have certainly been lymphangiomata. In one case which has been many years under my care I have, more than once, excised the lesions, and have always found them of that structure, though in other cases tumour formation in connection with the sebaceous glands has been noted. The disease occurs most frequently on the faces of children whose mental development is below par.\* Very often there is a history of fits in infancy, and the development of the disease has been attributed by some to the large doses of bromide of potassium administered. The little tumours are whitish yellow in colour, cover the whole face, though they are most numerous on the nose, cheeks, and chin, and have between them small teleangiectases, which give the face a mottled appearance. Now and then one enlarges to an inconvenient size, but as a rule the disease is troublesome only on account of the disfigurement. As the child gets older, the disease tends to moderate if not to disappear, but this takes long, and a great deal can be done by treatment. Electrolysis was not very successful in my case, and I had much better results from destroying the larger lesions with the fine point of Unna's micro-brenner, while, where the lesions were smaller, I ironed the surface with an ordinary Pacquelin cautery at a dull heat.

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\* The disease is fairly common in Imbecile Institutions.

## MYOMA.

The leiomyomata are the only variety that occur in the skin. They take origin from the cutaneous muscles, and may develop on any part of the skin, but are most common on the arms of women. They are firm, of a reddish colour, and usually excessively painful. Excision is the only remedy.

## CHONDROMA, OSTEOMA.

Both these tumours may occur in the skin, but so rarely as to make them merely curiosities.

## CLAVUS.

(*Clavus—a nail.*)

Corns are placed by Unna among the tumours, and there seems to be no particular reason why the horny cells should not have as much right to form tumours as the rest of those of the body. The corn is a dense thickening of the horny layer, usually conical in shape, which may form at any part exposed to intermittent pressure. Constant pressure causes atrophy; intermittent pressure encourages growth. Corns are too familiar to require any description, and only very brief remarks with regard to treatment are necessary. The best application is salicylic acid, which may be applied dissolved in collodion, to which it is customary to add some cannabis indica to diminish the pain.

R	Salicylic Acid	℥ss
	Tinct. Cannabis Indica	℥xx
	Collodion	℥ss

This is painted on every night, and in about a week the dead epidermis separates. The application should be renewed again and again until the surface is level. Sometimes salicylic creasote plaster is more convenient, and it is more rapidly efficacious than the collodion. Treatment is, however, of little avail if the original cause is still in existence. The patient must wear loose-fitting foot gear, and, preferably, woollen stockings.

## ANGIOKERATOMA.

(ἀγγεῖον—a vessel ; κέρας—a horn.)

This is a mixed form of tumour which may be roughly said to be a combination of an angioma and a corn. It occurs in groups, particularly on the hands, feet, and ears, more rarely on the limbs, of those who are subject to chilblains or to "dead fingers." The appearance varies according as the angioma or the keratoma predominates. In the early stages the former is more apt to prevail, and there are a number of little, hard, red, lenticular spots ; as the disease advances the horny layer thickens, and sometimes greyish, horny-looking patches obscure the reddish colour beneath.

TREATMENT.—The best immediate treatment of the lesion is electrolysis, but the real treatment consists in taking such steps as will improve the circulation, and prevent the recurrence of fresh lesions in the following winter (see "Chilblains").

## CORNU.

A cutaneous horn is rarely observed now-a-days. Most cases probably had their origin in a broken-down dermoid or an atheroma, and as such neglected cases now rarely occur, cutaneous horns are pretty well limited to museums. The only treatment for them is, of course, removal.

## XANTHOMA (XANTHELASMA).

(ξανθός—yellow.)

As the name indicates, this growth is characterized by its yellow colour. The cases may be divided either into the plane and tuberous forms, or into *Xanthoma palpebrarum* and *Xanthoma multiplex*.

XANTHOMA OF THE EYELIDS is an affection which commences in middle life, as a minute yellow spot. This extends into a patch varying in size which sometimes spreads so as to form a complete ring round the eye. It is slightly raised above the level of the skin, and has a wrinkled appearance. The usual comparison to a piece of chamois leather let into the





XANTHOMA DIABETICORUM.

skin is a very appropriate one. Growth is very slow, but there is no tendency to absorption. The yellow colour is due to the presence of fat, and Xanthoma is usually looked upon as a connective tissue growth in which the cells have undergone fatty degeneration. According to Unna this is incorrect. He maintains that the fat in Xanthoma palpebrarum is situated in the lymph spaces, and is in reality a sort of fatty infiltration of the orbicularis muscle, comparable to the fatty deposits in some senile hearts. The giant cells which are found in the growth are, he says, sections of dilated lymphatics, and the ring of nuclei is composed of those in the walls of the vessels. There is no pain and little inconvenience caused by the growth, and excision is the only treatment which can be surely depended upon, though cases have occasionally been successfully removed by electrolysis.

XANTHOMA MULTIPLEX OR TUBEROSUM.—This is apparently quite a different form of growth. It usually develops during the early years of life, and while it may appear on the eye-lids, it is more commonly seated on the limbs, the palms and soles, or the trunk. When it develops in adults, it is very often related to jaundice, and this connection is occasionally seen in children. Like the eye-lid form, this owes its yellow colour to fat, but apparently in this form of the disease the fat develops more certainly in the generally supposed way ; that is to say, a growth of connective tissue cells which undergo fatty degeneration is much more readily observed. Giant cells are not present. Cases have been known to involute, but as a rule, they grow to a certain size, about that of a shilling, and remain stationary, so that if their removal is desired, excision remains the only treatment.

XANTHOMA DIABETICORUM.—This is a variety of the disease associated with glycosuria, all the cases in which it has occurred either having glycosuria or developing it subsequently. It is not very distantly related to the generalised variety, but its course is more rapid and favourable. Plate XLII is an illustration of a case which I have published along with Dr. James, under whose care the girl was, in the "Scottish Medical and Surgical Journal." Most of the recorded cases have

- occurred in males.



The growths commence as little hard swellings, of a reddish colour, and it is only later that fatty degeneration sets in, and the yellow colour appears. The sections show the structure of little connective tissue tumours, with some of the cells showing fatty degeneration. A considerable amount of fat was found in the tissue spaces, and may have been derived from broken down cells. This form of the disease has its special seats of election on the elbows and knees, and then on the loins and buttocks.

The prognosis depends on the glycosuria. As that gets better the skin eruption disappears. Any local treatment is of quite secondary importance.

#### XANTHELASMOIDEA.

(*Xanthelasma* and *ædos*—like.)

Clumsy though this name may be, it appears to me eminently more applicable than the more generally used one of *Urticaria pigmentosa*. The disease is rare. It appears very early in life, and the first signs observed are those of urticaria. Typical wheals are undoubtedly present in most cases, but there is a further lesion which gives the disease its characteristics. Numbers of flat elevated areas, varying in size, appear all over the skin, and do not, like the wheals, disappear. They vary from pale to deep yellow in colour, and their resemblance to xanthoma is very remarkable. In particular the skin over them is not tense as it is in the urticarial wheal. After a period of slow increase they gradually disappear, and, as a rule, vanish entirely in the years between puberty and adolescence. One or two cases, however, are on record where the lesions have been persistent. When examined under the microscope the tumours are found to be composed almost entirely of Ehrlich's mast cells, and their persistence seems to be an argument in favour of the connective tissue origin of these peculiar cells, and against their origin from leucocytes.

Time is the only remedy. Treatment has no effect upon the condition.

## SECTION VII.

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### *MALFORMATIONS.*

THERE are many conditions which, in any complete system, would come under the malformations of the skin, particularly certain tumours developed in connection with the glands, and certain forms of moles. Dermoids and Atheromata are clearly malformations, but for their description other authorities must be consulted. The two of practical importance are Hyperkeratosis congenitalis, and Hypertrichosis.

#### HYPERKERATOSIS CONGENITALIS.

This is the condition which is usually described as congenital ichthyosis, the "harlequin foetus." In it there is an excessive cornification of the surface cells, and the child is born clad in a sort of horny armour. As it grows and moves its limbs, this tends to crack in various directions, dependent on the movements. The disease is practically universal, all the skin being affected, and in this as in other points it differs from ichthyosis. As a rule, the subjects of it do not survive, but where the disease is present in its less severe form they sometimes do. It is distinguished from ichthyosis by the fact that it is congenital, whereas ichthyosis appears generally towards the end of the first year of life ; and by its distribution, which is universal, whereas ichthyosis is rarely very widespread at first, and hardly ever affects the palms and soles, which this disease always does. The treatment consists in liberal nourishment, cod-liver oil, abundance of milk, etc., the cautious use of thyroidin, and the local application of weak salicylic ointments, which tend to promote more normal cornification.

## HYPERTRICHOSIS.

Hypertrichosis, or the growth of hair in abnormal situations, or in the usual situations in persons who should not normally have it, is a condition which some consider is beneath the dignity of a physician to deal with. It is, however, a very real affliction for its victims, and by the depression which it produces, often has a serious effect on their mental condition.

It is a mistake to suppose that the growth of hair is indicative of masculinity of character. While no doubt the development of a moustache strengthens the appearance of a strong-minded woman, Hypertrichosis is quite as common in the most feminine of the sex. In most cases it is not possible to discover any apparent cause for the growth, but I am satisfied that repeated greasy applications, such as vaselin or cold cream, strengthen the growth of downy hairs.

If the hairs are few in number, and especially if they are growing from a mole, electrolysis is the most efficient means of treatment. It is a method which requires a good deal of practice, and every one must look back upon much wasted time in their early cases.

The patient is comfortably seated in a chair, and holds in one hand a handle connected with the positive pole of the battery. The operation is done with a needle attached to the negative one. This is introduced into the follicle, as carefully as possible in the line of growth of the hair. The current, of from three to five m.a., is passed for a few seconds, during which a white froth appears at the mouth of the follicle. If the operation has been successful the hair can then be lifted out easily. One practised in the method can remove a great many hairs in an hour, but the beginner should confine his attention to a few, and do them thoroughly. In towns with the constant electric current, the electricity may be derived from the main, passed through a suitable resistance, but from four to eight pint Lechlanché cells are equally efficacious.

The X-rays, which have long been known to produce falling off of the hair, have recently become so much more manageable that the power of producing permanent destruction of the hair is now claimed for them.

Freund and Schiff maintain that one, two or three series of sittings can be depended upon for permanent results. They expose the patient for ten minutes daily, at a distance of six inches, and they state that a third series has, in their hands, always been successful. In using them for cosmetic purposes, such as this, even greater caution should be observed than when they are used for treating disease, and some days should elapse after the first exposure, so as to be sure that no undue reaction is caused in the individual. I do not feel in a position to recommend the extensive use of this method. The penetrative power of the rays is so great that one must beware that the hair is not removed from places where its absence would be more unsightly than is its presence in abnormal situations. The parts to which it is not desired to expose the rays must of course be covered with lead foil.

If for any reason these methods are not applicable, removal only remains. Women have an invincible objection to the razor, and invariably prefer some other form of removing the hair. Carefully applied, depilatory remedies are not so terribly injurious, and they need not be by any means so expensive as they usually are. The sulphides of barium and calcium are those commonly used. The former, mixed with equal parts of oxide of zinc and starch, is made into a thick paste with water and spread on the part. When dry, in about ten minutes, it is washed off, and the dissolved hair comes with it. The part should then be powdered, to diminish the slight irritation of the application. The sulphide of calcium is more active, and destroys the hair rather further down the follicle, but is followed by a good deal more inflammation than the barium salt.

## SECTION VIII.

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### *SAPROPHYTES.*

IN following Unna and placing Pityriasis versicolor and Erythrasma under this heading, I must confess to some misgiving. It is true that considering the amount of fungus present, there is very little disturbance, but there is sometimes a little scaling in pityriasis versicolor; not so much as the name would lead one to expect, but still enough almost to warrant one in regarding it as a very superficial inflammation.

### PITYRIASIS VERSICOLOR.

This disease is due to the growth in the superficial layers of the skin of the fungus known as the *Microsporon furfur*. It occurs most commonly upon the trunk, but it may also appear on the limbs and face. It consists in the development of yellowish areas, of various sizes, shapes, and shades. The larger patches are formed by the aggregation or enlargement of smaller ones, and the shade of colour varies from a pale yellow to a rich brown. The disease is most common in those who perspire freely and do not change their garments sufficiently often, and it was certainly very common in consumptives when avoidance of cold at all hazards was considered the essential treatment of that disease. Whether owing to the different views which now prevail or not, cases certainly occur with much less frequency in Edinburgh than formerly, and students have far fewer opportunities of becoming familiar with the disease than their predecessors of a few years ago. There is very little of the scaling which the name implies, though scales may be scraped off readily enough with any blunt instrument; and the

only disturbance which the patient suffers from is slight itching.

When the scales are examined in a drop of liquor potassæ under the microscope, the well-known appearances of the fungus are shown. All who possess a manual of physical diagnosis are familiar with the bunch-of-grape-like spores and the long filaments of fungus. If, however, the surface layer of the skin is removed *en masse* by the application, for a day or two, of salicylic plaster, the natural arrangement of the fungus may be studied. If a portion of the removed horny layer is stained by Morris's method (see Ringworm), it is found to contain an enormous amount of fungus, an amount so enormous that it is hardly possible to see through its dense felting, and the spores are now by no means easy to detect. It would almost seem as if the potash disintegrated some of the fungus where the joints were very short and spore-like, and that these ran together by capillary attraction, as corks do in water.

DIAGNOSIS.—The disease with which those unfamiliar with it are most apt to confuse Pityriasis versicolor, is syphilis. The mistake should never occur. The history of long persistence, the slight itching, the profuse sweating, should all arouse suspicions of its nature, and microscopic examination will settle the point. In the scales of ringworm it is not always possible to detect the fungus; in the scales of Pityriasis versicolor it is absolutely impossible to overlook it.

TREATMENT.—Treatment of the disease consists in the destruction of the fungus. It is often said that it is very apt to recur. Recurrence is a word which is often somewhat laxly used. If the disease is not removed, it will undoubtedly "recur," but it is insufficient and inefficient treatment which is responsible for the recurrences. The part should be thoroughly scrubbed with soap spirit, so as to take away as much of the fungus as possible, and then the affected region should be painted with some antiseptic solution. Lotions of perchloride of mercury or hyposulphite of soda, sulphur ointment, resorcin, or salicylic ointment—any of these will destroy the fungus. Perhaps as good a method as any is for the patient to take a



warm bath nightly, to wash the parts vigorously, and to paint on a solution of tar in spirit,  $\frac{1}{2}$  to 1 drachm to the ounce. The possibility that spores of the fungus adhere to the underclothing should be borne in mind, and that should be changed frequently.

Eichhoff recommends that quinine soap should be used to wash the part for some time after the disease has apparently disappeared.

### ERYTHRASMA.

(ἐρυθρὰς—*red.*)

Erythrasma is a disease which we rarely see in this country, but it is by no means uncommon in many places. It has many resemblances to pityriasis versicolor, but is invariably limited to the genital and axillary regions. It is less extensive, is of a dark reddish-brown colour, and has usually an abrupt bright red edge. When the horny layer is removed in the manner referred to in connection with pityriasis versicolor, it also is found to contain a dense felt-work of fungus. The threads are very much finer than those of the microsporon furfur, and if the scale is broken up and made into a cover glass preparation, the fungus breaks up into bacillary looking joints. A few spores are found among the felt-work. The name given to the fungus is *Microsporon minutissimum*.

DIAGNOSIS.—The disease with which it is most apt to be confounded is ringworm, which often occurs in the same regions. The eruption of ringworm causes very much more irritation, the border is more raised, and very frequently has vesicles upon it. Erythrasma is often only discovered accidentally, so slight are the symptoms.

The treatment of erythrasma is the same as that of pityriasis versicolor.

## SECTION IX.

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### *ANOMALIES OF PIGMENTATION.*

THE great "pigment" question, with its vexed points as to the nature and source of the pigment, and the method by which it reaches the epidermis from the blood, is of more scientific than practical interest. Unna classes the diseases in which pigment is increased, with the Progressive disturbances of nutrition, and those where it is diminished with the Retrogressive. Without entering on any criticism of his plan, I venture to think that for practical convenience, in such a work as the present, the arrangement I have selected is more useful for the student.

Increased pigmentation is associated with any long continued inflammation of the skin, especially if the part be congested, or if itching has been a prominent symptom, but it is further very specially associated with certain specific diseases. The greyish brown pigmentation around a syphilitic scar is quite characteristic, while the rich brown stain left on the disappearance of a patch of Lichen planus is often of value in the diagnosis of a doubtful case.

True pigmentation often results from the too long continued use of arsenic, under which circumstances it often affects all the areas of the disease for which the drug has been prescribed, and an apparent pigmentation due to the reduction of silver in the tissues occasionally follows the administration of nitrate of silver (Argyria).

Pigmentation is an important feature in the early stage of the disease known as Xeroderma pigmentosum (*q.v.*), and an equally important feature in the mole, especially should it become malignant.

In all these cases other local disease is present ; here

we are concerned with those diseases where increase or decrease of the pigment is the only evident alteration.

### EPHELIS OR LENTIGO.

(*ἑπι* and *ἥλιος*—*the sun* ; *lens*—*a lentil*.)

Freckles are minute, lenticular accumulations of pigment, and, as the name suggests, occur almost invariably on those parts of the surface which are exposed to the sun. They are most common on the face and arms, and during the summer months. They are found mostly in fair young people, and may be looked upon as an effort of nature to protect the deeper parts from the irritant action of the actinic rays of light. For the tissues beneath them they play the part of the photographer's red glass. Mr. Alexis Thomson has called my attention to the occurrence of pigmentation, sometimes taking the form of freckles, on any part of the surface in patients who are affected with plexiform neuromata. The freckles which sometimes appear on all parts of the body in elderly people, are possibly of the same nature as these, and some apply to them the term lentigo, and restrict ephelis to the ordinary freckle.

The development of freckles in those subject to them can be prevented by avoidance of exposure to the sun, the hands being protected by gloves, and the face by a veil, brown, red, or yellow in colour.

When they have developed they can be removed by various applications, which, however, do not prevent the appearance of fresh spots. All the various remedies used produce an exfoliation of the epidermis. The most popular is sublimate. It must be cautiously applied. A half per cent. solution in spirit, painted on at night, is quite strong enough to commence with. Stronger solutions do indeed remove the pigmentation, but at the expense of a more or less severe blistering, which necessitates confinement to the house. If the patient is ready for such confinement, the method of shelling the skin with resorcin, described on page 171, is much more thorough and successful. The various bismuth salts have a certain depigmentary action, and may be used in ointments, as may boric





VITILIGO OR LEUCODERMA.

acid and the peroxide of hydrogen. Unna recommends :—

R. Adipis Lanæ anhyd.	5j
Vaseline	5ij
H <sub>2</sub> O <sub>2</sub>	ʒss
Hg. Cl. <sub>2</sub>	gr j
Bismuth Chlorid.	gr v-xxx

Sig.—Apply at night.

### CHLOASMA.

(χλωάσω—to be pale green.)

Chloasma is a diffuse or circumscribed pigmentation of the skin of the face, which is induced, not by external irritation, but, reflexly, by some internal irritant.

It sometimes occurs in connection with hepatic, uterine, or ovarian, or any abdominal disease (*e.g.* appendicitis), but the great majority of cases are associated with pregnancy. The spots vary in extent; sometimes they are round or oval in shape, sometimes they extend so as to resemble a dark mask. The tint varies from a light yellowish brown, up to a deep, almost black shade. The discolouration usually disappears with the termination of the pregnancy or the cure of the disease, but is sometimes persistent.

The pigmentation may be temporarily removed by the methods recommended for the removal of freckles, but it will return unless the cause is removed.

### VITILIGO OR LEUCODERMA.

(*Vitulus*—a calf [*spotted?*], or *vitium*—a defect;  
λευκός—white, and δέρμα—the skin.)

In this disease the disappearance of pigment from the skin and the hairs on it is the *only* anomaly present.

It commences as a round or oval area, which increases in size, while fresh spots develop, until very large areas of the surface are entirely blanched, as shown in Plate XLIII.

Very often the skin immediately margining the patch is more deeply pigmented than the surrounding parts, and this suggests the idea that the pigment has been driven from a centre by some centrifugal force.

The skin of the rest of the surface, too, often appears somewhat darker than normal.

While the disease is much more common, as it is much more striking, in the darker races, it is by no means uncommon in this country, but it often escapes notice, so slight is the contrast presented on the white skin of the Anglo-Saxon.

The disease gives rise to no symptoms, and is of purely cosmetic importance, except that it is sometimes confused by those not familiar with the diseases of the skin with the much more important scleroderma. There should be no difficulty in distinguishing the two, for while in this disease the change is *only evident to the eye*, the skin feeling perfectly normal, in scleroderma there is often hardly any change visible on inspection, and it is only when an attempt is made to pinch up the skin that the hardness is noted. Vitiligo is entirely free from any danger to life, and gives rise to absolutely no symptoms.

TREATMENT is unsatisfactory. If the patch appears on an exposed part, attempts may be made to induce a certain amount of pigmentation in the white spot by mild counter-irritation. The chances of success are, however, not very great, and the best prospect for the patient is that the disease will become so extensive that the whole region will be affected. The well known connection of the supra-renal bodies with pigmentation, in relation to Addison's disease, has suggested the administration of their substance. The little girl from whom Plate XLIII is taken, took several bottles of supra-renal tablets without any benefit; but another patient under my care, a lady from India, recently wrote me from there that since taking the tablets not only had the disease ceased to spread, but that she was able to report some improvement. I have not had an opportunity of testing the effects of Adrenalin.



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